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ETIOLOGIC STUDY OF A SERIES OF OPTIC NEUROPATHIES *

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During the past five years many articles have appeared, especially in the American literature, that attribute various types of the optic neuropathies to disease of the accessory nasal sinuses; and, notably, White [1] has reported a large number of such cases. In several papers, papilledema of a high degree has been ascribed to an infection of the posterior ethmoidal and sphenoidal sinuses. Visual disturbances, and even organic changes in the optic nerve, have been attributed to sinus disease in patients who have no discharge, polyps, local redness, or swelling of the mucous membrane around the orifices of the sinuses, or, indeed, any other of the usual manifestations of sinus disease. This has been a source of confusion to the laryngologist and internist, and particularly to the ophthalmologist, the neurologist and the neurologic surgeon.[2] Moreover, the emphasis that has been placed on sinus disease as an etiologic factor in optic neuropathies has given rise to the danger that an actual infection of the sinuses may unjustifiably be assumed to be the true cause of an optic neuropathy, and the actual, more deep seated cause, may be overlooked. We have observed several patients in whom this mistake has been made. Therefore, both to protect the patient from a series of unnecessary nasal operations, and to guard the diagnosis of an optic neuropathy secondary to sinus disease, the relation of the accessory nasal sinuses to disease of the optic nerve deserves the most careful study.

The anatomic studies of Onodi [3] and others have shown that the optic nerve, just anterior to the chiasm, is often separated from the posterior ethmoidal cells by the thinnest layer of bone or fibrous tissue. Onodi has also shown that the optic nerve may actually lie inside the sphenoidal sinus for a distance of a centimeter or more. It has also been known for some years that an infection of these sinuses may, in some persons, cause an inflammation of the portion of the optic nerve that lies in the bony canal and so give rise to visual disturbances. These visual disturbances usually consist of an impairment of the central vision, and are not associated with edema or other visible changes in the optic nerve. They appear to be due to a retrobulbar involvement of the papillomacular bundle. The term "retrobulbar neuritis" has usually been employed to describe such conditions.

Our purpose in this paper is to present our experience in the study of a group of eighty-six patients that presented various optic nerve changes, and to determine the possible relationship of any of these changes to disease of the accessory nasal sinuses.

SELECTION OF CASES

The eighty-six cases of optic neuropathy on which this report is based were in patients who presented themselves at the clinic primarily for visual disturbances, and who had no knowledge of the cause of their trouble. All patients referred to the eye department for consultation from other departments are excluded. Likewise, we have excluded all cases in which there was a history of trauma, and all those in which the optic nerve condition was due to a primary disease of the eye, such as glaucoma, and retinitis pigmentosa.

Each of the eighty-six patients included in this series was subjected, with the few exceptions specifically noted, to a complete diagnostic study as outlined below:

1. *Ophthalmologic.*—External examination of the eyes, including pupillary reactions, visual acuity and refraction; ophthalmoscopic examination, and visual fields. On the data thus obtained, a clinical diagnosis was made of one or the other of the following conditions: primary atrophy of the optic nerves; secondary atrophy of the optic nerves; atrophy of the papillomacular bundles; retrobulbar neuritis; papilloedema. (This group was subdivided, at the time of the ophthalmologic examination, if possible, or if not then, at the conclusion of the diagnostic study, into one of the two subdivisions, optic neuritis and choked disk.)[4]

* From the Department of Surgery of the Johns Hopkins Hospital and University.

1. White, L. E.: The Diagnosis and Prognosis of Loss of Vision from Accessory Sinus Disease, J. A. M. A. **74**: 1510 (May 29) 1920.
2. Cushing, Harvey: Accessory Sinus Disease and Choked Disk, J. A. M. A. **75**: 236 (July 24) 1920.
3. Onodi, A.: Der Sehnerv and die Nebenhoelen der Nase, Vienna, A. Holder, 1907.

4. Throughout this paper, these terms are used with the following meanings:

Primary atrophy: Atrophy involving the entire nerve, without the presence of visible, ophthalmoscopic, evidence of any preceding inflammation of the nerve.

Secondary atrophy: Any atrophy of the nerve in which there was present visible, ophthalmoscopic evidence of preceding inflammation; i. e., obscuration of the physiologic cup, blurring of the lamina cribrosa, or deposition of connective tissue in the cup or on the nerve head.

Atrophy of the papillomacular bundle: An atrophic process especially localized in the papillomacular bundle, giving the clinical picture of pallor of the temporal sector of the nerve, diminished central vision, and normal field outlines for form, but with central or paracentral scotomas for either form or color.

Retrobulbar neuritis: Diminished central vision, normal fundus and nerve head to ophthalmoscopic examination, normal field outlines for form, or concentric contraction, with the presence of central scotoma for either form or color.

Papillo-edema: A definite elevation of the nerve head. The subdivision of this group is based on which of the two etiologic factors—inflammation in the nerve or increased intracranial pressure—appears to be the predominating cause. Thus, when it was manifest that the papillo-edema was dependent on an inflammation in the nerve, the diagnosis of "optic neuritis" was made. Similarly, when it was manifest that the papilledema was primarily dependent on increased intracranial pressure, the diagnosis of "choked disk" was made. Until it appeared justifiable to make a diagnosis of either of these two conditions, the tentative diagnosis of papillo-edema was retained.

2. *Medical Examination.*—To include physical examination, usual laboratory procedures—Wassermann test, urine examination, and kidney function if indicated, and lateral stereoroentgenograms of the head.

3. *Neurologic Examination.*—To determine or exclude other neurologic conditions, and to include any especial neurologic diagnostic procedure that might be indicated.

4. *Laryngologic Examination.*—Complete, painstaking examination of the nose, throat, ears and accessory nasal sinuses, and to include a roentgenogram of the sinuses in all suspicious cases. The nose is always cocainized, and the orifices of the sinuses are carefully scrutinized with the aid of an electrically lighted nasopharyngoscope.

5. *Serology.*—Blood serum and spinal fluid Wassermann tests of all patients. Provocative arsphenamin and icebox incubation of Wassermann tests were included whenever indicated.

RESULTS

The composite results of this statistical study are shown in Table 1. Thirty-five optic neuropathies, approximately 40 per cent. of the eighty-six cases studied, were caused by syphilis. Eleven, or 12.7 per cent., were caused by sinus disease. Ten, or 11.6 per cent., were secondary to tumors of the cerebrum or optic nerve. Five, or 5.8 per cent. were caused by multiple sclerosis. Ten, or 11.6 per cent., belonged to the toxic amblyopia group. Three cases, 3.5 per cent., occurred in widely separated conditions: heredocerebellar ataxia (Friedreich's disease group), mongolian idiocy, and epidemic (lethargic) encephalitis. In twelve cases, 14 per cent., no definite diagnosis seemed justifiable.

TABLE 1.—*Results of Study*

	Total	Central Nervous System Syphilis	Sinusitis	Brain Tumor	Multiple Sclerosis	Toxic Amblyopia	Scattering	Unknown
Primary atrophies	35	25	0	0	1	4	0	5
Papillomacular atrophies	24	4	5	1	4	5	1 (Friedreich's disease group)	3
Secondary atrophies	13	2	2	4	0	0	1 (Mongolian idiocy)	4
Optic neuritis	5	3	0	0	0	1	1 (Encephalitis)	0
Choked disk	4	0	0	4	0	0	0	0
Retrobulbar neuritis	5	1	4	1	0	0	0	0
Totals	86	35 40%	11 12.7%	10 11.6%	5 5.8%	10 11.6%	3 3.5%	12 13.8%

If the series is viewed from the standpoint of the clinical ophthalmologist, the distribution is as follows: There were thirty-five cases of primary atrophy. Twenty-five of these were due to syphilis, one to multiple sclerosis, and four to the toxic amblyopia group; five were undetermined.

There were thirteen cases of secondary atrophy, thus distributed: Two were due to syphilis, two were due to sinus disease, four were secondary to brain tumor, one occurred in mongolian idiocy, and four were undetermined.

There were twenty-four cases of atrophy of the papillomacular bundle. Four of these were apparently due to syphilis, six to sinus disease, one to brain tumor, four to multiple sclerosis, five to the toxic amblyopia group, one to the Friedreich's disease group, and three were undetermined.

There were five cases of optic neuritis. Three occurred in syphilis, one in the toxic amblyopia group, and one in epidemic encephalitis.

Four cases of choked disk were observed. In each of these patients a brain tumor was demonstrated by an exploratory craniotomy.

Five cases of retrobulbar neuritis complete the series. One of these was due to syphilis, four to sinus disease, and in one the cause was a prechiasmal tumor of the left optic nerve.

A more careful analysis of the optic neuropathies occurring in the various etiologic diseases shows several interesting facts and subgroups that it is well to consider in somewhat greater detail.

SYPHILIS

Thirty-five, or 40 per cent. of the series of eighty-six optic neuropathies, were caused by syphilis. In all but one patient there was positive serologic evidence of the disease. The neuropathies reported here all occurred in acquired syphilis, without evidence of any associated keratitis. The predominating type of syphilitic lesion was primary optic atrophy. Twenty-five patients, or 73 per cent. of the syphilitic series, had this type of lesion. Positive Wassermann reactions were present in both the blood and the spinal fluid of sixteen of these patients. The blood serum Wassermann reaction was positive and the spinal fluid Wassermann reaction was negative in three patients, while the blood serum Wassermann reaction was negative and the spinal fluid Wassermann reaction was positive in five patients. One of these patients had negative Wassermann reactions in both the blood serum and the spinal fluid, but this patient gave a positive history, and the clinical picture was clearly that of a tabes dorsalis.

Four patients of the syphilitic group had an ophthalmologic picture that was clearly that of an atrophy of the papillomacular bundle with the changes described in the preceding footnote. These patients had positive Wassermann reactions in both the blood serum and the spinal fluid. All other special examinations were negative. One patient gave a history suggestive of an old basilar meningitis. In this patient a possibility is a bilateral involvement of the exposed tracts by the meningitic process, affecting the sensitive papillomacular bundle fibers, and so causing a descending atrophy. In the other three patients it is not so easy to visualize the process. The possibilities are that the picture observed is the end-process of either a retrobulbar involvement of the nerves, or of an optic neuritis which passed without leaving any ophthalmoscopic evidence of inflammation. However, as we have observed only one case of retrobulbar neuritis secondary to syphilis, this appears to be an infrequent syphilitic lesion.

The three cases of syphilitic optic neuritis were in no way remarkable. The same is true of the two cases of secondary atrophy encountered in this syphilitic series. They doubtless represented the end-stage of an old optic neuritis.

SINUS DISEASE

Eleven cases of optic neuropathy were observed which could be traced to disease of the accessory nasal sinuses. Four of these were in the acute stage, and seven in the atropic stage. The four patients in the acute stage all presented the same picture—that of a retrobulbar neuritis. The patients all had greatly diminished vision in the affected eye, clear media and normal fundi. Visual fields showed a disturbance in central vision with a central scotoma, varying in intensity from a relative color scotoma to an absolute scotoma for both form and color. Three of these

patients had a pyogenic infection of the ethmoidal sinuses, and two of these showed a complicating infection of the sphenoidal sinus. The fourth patient had nothing except polyps in the posterior ethmoidal cells, which were apparently in direct juxtaposition to the optic nerve. All of these four patients were operated on by Dr. S. J. Crowe. All four made a complete recovery, with a clearing up of the central scotomas and a restoration of vision to normal in the affected eyes.

Five of the patients in the atrophie stage had the ophthalmologic picture of a primary atrophy of the papillomacular bundle, without any visible evidence of preceding inflammation around the nerve head. One patient showed a generalized atrophy, especially marked in the papillomacular bundle area, with a definite blurring of the margins and a deposition of new connective tissue in the physiologic cup: the picture of secondary atrophy, especially marked in the papillomacular bundle. The last patient in this series showed an ordinary secondary atrophy of the optic nerve. This patient also had evidence of an old ethmoidal infection. There was a history of a former positive Wassermann reaction, but two Wassermann reactions in the Johns Hopkins Hospital were negative, and our only positive findings was the old ethmoiditis. For that reason this case is included in the group of neuropathies secondary to sinus infection.

TABLE 2.—*Observations in Four Cases*

No.	Ocular Picture	Condition to Which Attributed	Condition Found
1	Atrophy of the papillomacular bundle	Ethmoiditis	Central nervous system syphilis
2	Retrobulbar neuritis	Ethmoiditis	Central nervous system syphilis
3	Elevation of the disks of 5 diopters; no atrophy	Sphenoiditis	Tumor of right cerebrum
4	Elevation of the disks of 4 diopters; disks atrophic	Pansinusitis	Brain tumor of cerebellopontile angle

In one of these eleven cases, the laryngologic diagnosis was chronic sphenoiditis. The diagnosis in the remaining ten cases was ethmoiditis, complicated in two by a sphenoiditis; in two, by an infection of the antrums, and in two by a pansinusitis.

Our experience with optic neuropathies caused by sinus disease may be thus summarized: The cases in the acute stage have all been cases by retrobulbar neuritis showing normal fundi, without any elevation of the disk or changes around the nerve head. The operative result in all these cases was excellent. Of the cases in the atrophic stage, five, or 70 per cent., showed an ophthalmoscopic picture of primary papillomacular bundle atrophy, which may reasonably be interpreted as a descending atrophy, secondary to an old retrobulbar neuritis similar to that observed in our acute cases. The remaining two cases both showed some ophthalmoscopic evidence of preceding inflammation around the nerve head. It may justly be assumed that these two cases in the acute stage showed some elevation of the disk, or changes around it, although we have never observed this actual condition. All of our cases were secondary to disease of the posterior ethmoids or the sphenoids, ethmoidal disease predominating as the etiologic factor.

There were four cases, included in other groups, that are worthy of especial mention here. When these cases came to our attention, the optic neuropathy had already been diagnosed as secondary to sinus disease, and in all four, to a greater or lesser degree, there was some sinus disturbance. Study of these cases revealed other disorders which were apparently the true cause of the optic neuropathy. These cases are shown in Table 2.

BRAIN TUMOR

There were ten patients in whom brain tumors were responsible for the optic nerve disorder. Four patients had tumors of the cerebellopontile angle, and three of these showed an elevation of the nerve head of 4 diopters or more. The fourth patient showed advanced secondary atrophy, probably the result of an earlier elevation of the nerve head.

Two of the patients had hypophysial tumors, and, contrary to the usual observation, in both of these patients the atrophy was distinctly of the secondary type.

Two patients had tumors of the cerebrum. One, with a tumor of the floor of the third ventricle blocking the foramen of Monro, showed a choked disk. The second, with a tumor of the right temporal lobe, showed a secondary atrophy. This patient had already undergone decompression in the effort to preserve sight, before he came under observation.

One patient had a tumor of the floor of the fourth ventricle. The ocular picture was an atrophy of the papillomacular bundles, with a left sixth nerve palsy. The tumor was localized by injections of air into the lateral ventricles, and on operation was found to be a solitary tubercle.

The last case was one of a prechiasmal tumor of the left optic nerve, giving the clinical picture of a retrobulbar neuritis. This case has been reported in detail by Dandy.[5]

MULTIPLE SCLEROSIS

The five cases in which multiple sclerosis appeared to be the causative factor in the optic nerve disease were in no way remarkable. In four of these patients the picture was the common one of an atrophy especially localized in the papillomacular bundles, while in the remaining one the atrophy was generalized and of the primary type.

TOXIC AMBLYOPIA GROUP

There were ten cases in the toxic amblyopia group. In two of the patients the diagnosis of toxic amblyopia due to ethyl alcohol poisoning was made. The diagnosis was made on the history, supported by completely negative findings in the medical study.

The remaining eight cases were all due to methyl alcohol poisoning. In four of these patients, no spinal punctures and studies of the cerebrospinal fluid were made. In these patients the histories and pictures were so clear-cut that this procedure did not appear justified. Formic acid, the end-product of methyl alcohol, was found in the urine of one patient in the acute stage of poisoning. An interesting sociological observation is that only two of these cases can be classed as "guilty cases," occurring in chronic alcoholics.

Five of these patients, observed in the atrophic stages, showed the picture of atrophy of the papillomacular bundles. Four showed the picture of a primary atrophy, and one, seen in the acute stage, showed an optic neuritis.

MISCELLANEOUS CASES

The three cases occurring in this group are not especially noteworthy. One was a case of mongolian idiocy

5. Dandy, W. E.: Prechiasmal Intracranial Tumors of the Optic Nerves, Am. J. Ophth. 5: 169 (March) 1922.

in which the patient had been brought in for diagnosis. This patient showed a secondary atrophy of the optic nerves. The second case was one of bilateral atrophy of the optic nerves, involving especially the papillomacular bundles. This case was subsequently diagnosed as belonging to Friedreich's disease group of heredocerebellar ataxia. The third patient showed a low grade of papilledema, with normal vision and visual fields, and presented definitely a case of epidemic encephalitis.

UNDETERMINED CASES

There were twelve patients in whom, at the conclusion of the diagnostic study, a definite diagnosis appeared unwarranted. Five of these twelve patients showed a primary optic atrophy, four a secondary optic atrophy, and three an atrophy especially localized in the papillomacular bundles.

In three of these patients there was some reason to suspect syphilis. Two of these were cases of secondary atrophy, and one was a case of primary atrophy of the optic nerves. There was, however, in each of these patients, insufficient evidence to make the diagnosis even of a burnt-out syphilis.

In two patients, one with a primary atrophy and one with a papillomacular bundle atrophy, multiple sclerosis was suspected; but, again, the evidence was insufficient to make a diagnosis.

Three cases, one of primary atrophy, one of secondary atrophy, and one of atrophy of the papillomacular bundles, were undoubtedly cases of organic brain disease, but in each of these patients the picture was so confused that it was impossible to make a more accurate diagnosis, and the cases are therefore classed as undetermined.

In four patients, three with a primary atrophy, and one with a secondary atrophy, at the end of the diagnostic study, we were as much in the dark as we were at the beginning. In neither of these patients did it seem justifiable to advise air injections of the ventricles as an additional diagnostic procedure, and we were forced to discharge the patients with no diagnosis.

COMMENT

With the development of more accurate diagnostic procedures, it becomes increasingly easier to diagnose the etiologic factor in optic neuropathies. Thus, any comparison with earlier statistical reports is manifestly unfair. Yet it is of interest to compare the results of this study, shown in Table 1, with the earlier statistical study of Derby.[6] Excluding traumatic cases, Derby reported 108 cases of optic atrophy; 7.3 per cent. were due to syphilis, 10.3 per cent. to toxic amblyopia, 8.2 per cent. to multiple sclerosis, 1.7 per cent. to brain tumor, and 5.5 per cent. to brain disease; 8.2 per cent. were scattering, while 67 per cent. were undetermined. It would seem that it is in the diagnosis of syphilis, brain tumor and sinus disease that diagnosis has made its greatest advance.

In regard to the sinus phase of the question, the point that prompted this study, it seems clear to us that the type of optic nerve disturbance caused by sinus disease is generally a rather definite clinical entity. The picture we have constantly observed is that of a retrobulbar nerve disturbance: diminished vision, the defect being in the central field and manifest by a central scotoma of varying intensity, normal field outlines, and normal media and fundus. We have yet to observe any case of active, optic nerve disturbance secondary to sinus disease, which at the papilla showed any manifest, visible, ophthalmoscopic signs of inflammation or elevation of the disk. Yet we are not prepared to say that such findings may not occur. In our series there are two neuropathies observed in the atrophic stage, in which there must have been at one time visible inflammation or elevation of the nerve head, for the atrophies were distinctly secondary in type. The only etiologic factor that could be found to account for these pictures was evidence of an old chronic infection of the ethmoidal sinuses. Whether these infections were the true cause of the optic nerve disturbance, or whether some other cause was present at the time of the active lesion, cannot be said when the patients were seen only in the atrophic stage. But, certainly, any inflammation or elevation of the optic disk must be an exception, rather than the rule, in the disorders of the optic nerve caused by sinus disease.

There is one further point we should like to emphasize, and that concerns the nomenclature commonly in vogue to describe the various optic neuropathies. Throughout much of the literature, the terms "optic neuritis," "axial neuritis," "ascending" and "descending" neuritis, and "choked disk" are freely and confusingly used. The rather simple terminology used in this paper seems adequate to describe the various conditions. Concerning the terms "primary" and "secondary" atrophy, there will probably be very little difference of opinion. Likewise the term "retrobulbar" neuritis is usually used with the generally accepted meaning. The greatest confusion arises in the indiscriminate use of the terms "optic neuritis" and "choked disk." Elevation of the optic disk, or papilledema, can be caused by two widely different mechanisms. These mechanisms, respectively, are inflammation in the nerve itself, and increased intracranial pressure. Probably one condition is never present without the other being present in some degree. But in any given case of papilledema, either the inflammatory factor or the increased intracranial pressure factor is the predominating cause. If the term "optic neuritis" is reserved for the class of case in which actual inflammation in the optic nerve is the cause of the papillo-edema, and the term "choked disk" is reserved for the class in which increased intracranial pressure is the predominating etiologic factor, much confusion will be saved. If it is impossible to determine from the existing evidence which diagnosis is correct, no other diagnosis than papilledema is justified from the ophthalmologic picture. Such a system not only would greatly clarify the ophthalmologic terminology, but also would be a boon to the internist who is forced to deal with such conditions. There seems to be little excuse for the terms "axial neuritis" and "ascending" and "descending" neuritis. The condition can be described in less confusing terms, and in language more likely to be universally understood by both the ophthalmologist and the internist. Considerable sympathy must be felt for the internist who is forced to handle the present intricate and technical nomenclature, used frequently in such an indiscriminate manner.

SUMMARY

An analysis of eighty-six cases of various optic neuropathies has shown the following etiologic causes: syphilis, 40 per cent.; sinus disease, 12.7 per cent.; brain tumors, 11.6 per cent.; multiple sclerosis, 5.8 per cent.;

6. Derby, Haskett: Amaurosis (Atrophy of the Optic Nerve) and Its Treatment by the Subcutaneous Injection of Strychnia, Boston M. & S. J. **66**: 508, 1902.

toxic amblyopia group, 11.6 per cent.; scattering, 3.5 per cent.; undetermined, 14 per cent.

The acute cases observed secondary to sinus disease all gave the clinical picture of a retrobulbar neuritis, without ophthalmoscopic evidence of inflammation or elevation of the papilla.

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OPENING THE PERITONEUM IN OPERATIONS FOR EMPYEMA*

REPORT OF FOUR CASES

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In a study of a series of cases of empyema in which drainage had been performed at varying periods after the onset of the condition, and in which the cavities did not heal, it was determined that one of the commonest causes for failure to obtain a cure was that drainage had not been instituted at a dependent portion of the cavity.

In such cases a residuum of purulent exudate remains below the level of the drainage opening, no matter what position the patient assumes. This is particularly true of the empyema whose floor is formed by the diaphragm, which is the situation of most empyemas. An empyema cavity thus inadequately drained tends to be maintained not only because of the accumulated pus, but also because of the continuation of the infection of the pleura. The resultant cavity is therefore usually much larger than can be accounted for merely by the amount of exudate which collects at the bottom of the cavity below the level of the drainage opening. Acutely ill patients, in whom drainage has been performed through an opening improperly placed, may eventually recover, but the period of invalidism is greatly prolonged.

The establishment of dependent drainage of an empyema which has been improperly drained at a previous operation will be followed by a cure in the majority of cases. This is true even though the condition has been existent over a long period of time. Even an associated bronchial fistula will usually heal spontaneously as the empyema cavity drains, and becomes obliterated.

In very large chronic cavities it is often best to drain at two dependent points, so that there will be no stagnation of purulent exudate no matter what position the patient may assume. Particularly is this true if the cavity is irregular in shape and there is a recess which does not communicate freely with the main cavity.

Dakin's irrigation of a chronic cavity is undoubtedly of great value, but must be preceded by adequate drainage of the cavity.

The site of election for the establishment of drainage in either an acute or a chronic case should be not only in the lowest level of the cavity—just above the diaphragm in the great majority of instances—but in the posterior portion as well. An opening so placed allows of the most adequate drainage with the patient in either the dorsal position or the upright position following operation.

Accepting the principle of dependent drainage in empyema, one must realize that there is a certain risk in putting it into practice; namely, the danger of opening the peritoneum through or below the diaphragm. This operative mishap may occur because of the obliteration of the costophrenic gutter in the pleural cavity, or because the diaphragm has risen to a level which is higher than normal. In either case the operator resects a piece of rib which normally is over the pleural cavity, and finds out too late that the anatomic relations are disturbed.

Demonstration of pus by the aspirating needle should always be carried out immediately before the operation is begun. This is a fundamental principle, and there are few cases in which it may be ignored. It is not enough that pus has been obtained by some other physician or by oneself even a short time before the patient is brought to the operating room; aspiration of pus must be the preliminary step in the operation. This should be done in what is felt to be the lowest portion of the cavity. In passing the needle through the chest wall, one must take care to hold it at right angles to the wall. There is a tendency to insert the needle obliquely upward, and in this way one may pass the needle through the diaphragm into the empyema cavity without realizing it.

When pus has been found by aspiration, subperiosteal resection is made of a portion of the rib immediately below the needle. Before the pleura is incised through the rib bed, however, the needle must be reinserted to make sure that the rib resection has been made over the cavity and not over or below the diaphragm. If at the level of the diaphragm, then the incision may be made in the interspace at this point into the empyema. In case this will not give sufficient room for drainage, resection of the rib above should be done.

By following the procedure as outlined, one may institute drainage of an empyema cavity in its dependent portion without opening through or below the diaphragm. It is not intended to discuss in this paper the relative merits of open and closed drainage, the value of irrigations with surgical solution of chlorinated soda (Dakin's solution) or other questions pertinent to the treatment of acute or chronic empyema.

In the cases of empyema treated in the surgical service of the University Hospital, the peritoneum has been opened four times in the experience of three different surgeons. This surgical mishap is mentioned so infrequently in medical literature, and so little stress is placed on it in surgical textbooks, that these cases are briefly reported.

REPORT OF CASES

CASE 1.—A boy, aged 17 years, who entered the hospital, Dec. 6, 1919, had developed empyema as a complication of influenza, and was admitted to the surgical service about one month after the symptoms of empyema developed. Pus had been found by his physician on aspiration. He had a high fever and a leukocytosis of 18,000. Signs of fluid were present in the right pleural cavity. Under procain and nitrous oxid anesthesia, aspiration, performed in the fifth interspace in the anterior axillary line, found thick pus. One inch of the sixth rib was resected subperiosteally below the needle puncture. What seemed to be thick pleura was incised beneath this point and the diaphragm was cut into, opening the general peritoneal cavity and the empyema cavity at the same time. The patient coughed, and some of the pus entered the abdominal cavity. The incision was drained by two tubes, one into the empyema and one below the diaphragm. Symptoms referable to the pleural infection rapidly subsided. Drainage was ordinarily profuse from the tube in the empyema. No drainage came from the other. The patient complained of abdominal pain, tenderness over the lower abdomen, and distention, and the postoperative febrile reaction was greater and more continuous than usual. On the

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twenty-third day following operation, a tender bulging was found in the posterior wall of the rectum, an abscess in the culdesac. Under nitrous oxid anesthesia, an incision was made through the rectal wall, and a localized abscess containing several ounces of pus was drained. Cultures of this were sterile. The boy developed pneumonia following operation, and died on the eighth day.

The aspirating needle had passed just above the diaphragm, so that the rib resection was at the diaphragm level. If a needle had been again used before an opening was made into the rib bed, the relation of the diaphragm to the incision would have been noted and the opening into the empyema cavity would have been made above the diaphragm.

CASE 2.—A woman, aged 40, admitted, Feb. 4, 1919, presented symptoms of empyema of one week's standing. She had a high fever, and a leukocytosis of 23,000. There were signs of empyema on the right side. Aspiration by an internist in the eighth interspace in the level of the scapular angle had obtained pus. Under nitrous oxid-oxygen anesthesia, aspiration was made in the eighth interspace at the point at which pus had been observed in the morning, but none was found. Resection of a portion of the ninth rib was made in this line, and what seemed to be thick pleura exposed. It was pierced by a sharp pointed hemostat and proved to be diaphragm, for the abdominal cavity was opened, exposing the dome of the liver. The opening in the diaphragm was closed by catgut suture. The rib above was then resected, and the empyema cavity opened through thick pleura. A pneumococcus was grown from the pus. The patient had a regularly remittent fever to 102 F. for several days, with a gradual return to normal. She had a chill on the eighteenth day. The drainage tube was removed from the empyema cavity on the forty-seventh day, and the patient sent home apparently well on the fifty-fifth day. She returned in two weeks because of pain and tenderness under the costal border to the right of the epigastrium. A subdiaphragmatic abscess was drained anteriorly, after which the patient made an uneventful recovery.

In this case the needle was probably passed through the chest wall obliquely into the empyema cavity, and pus was found by the internist. The surgeon aspirated in exactly the same place at operation a short time later, and found no pus. Contrary to the principle laid down, needle exploration was not then repeated until pus was found. The peritoneal opening and subsequent infection might have been avoided if it had been, and certainly if the needle had been used before opening into what was erroneously taken to be pleura.

CASE 3.—A man, aged 42, developed streptococcic empyema on the left side following influenzal pneumonia. This was treated by three aspirations and injections of 2 per cent. dilution of liquor formaldehydi in glycerin, with a subsidence of the acute symptoms. Under nitrous oxid-chloroform anesthesia, three months after onset, aspiration in the eighth interspace in the posterior axillary line found pus. Subperiosteal resection was done of a portion of the ninth rib in this line. An opening was made through the pleura with a hemostat; this also opened the diaphragm. The opening in the peritoneum was sutured at once, and the empyema drained by tube. Recovery from the pleural infection was uneventful with no evidence of peritoneal involvement.

This case illustrates the point that demonstration of the empyema cavity by needle passed through the site of the resected rib should be carried out as an essential safeguard against injury to the diaphragm, when dependent drainage of a cavity is being sought.

CASE 4.—A man, aged 36, admitted, Nov. 7, 1920, had had pneumonia fourteen years before, followed by empyema of the left side, which was drained by rib resection. He wore a drainage tube until one year before admission, and then the wound healed. He entered the hospital because of malaise, pain in the chest and fever. Leukocytes numbered 13,000. Under ether anesthesia, aspiration, performed in four places posteriorly, was negative. Aspiration in the left anterior axillary line in the old scar obtained foul smelling pus. An incision was made over the rib just below, and a piece of rib resected. When an incision of what appeared to be pleura was made, the peritoneal cavity was entered, and omentum and a loop of bowel appeared. The diaphragm lay above the level of the opening. A tube was carried to the opening and surrounded by a strip of iodoform gauze, and the incision was closed to them. Aspiration in the second higher interspace found pus, and resection of the rib below was done and the pleura opened. A long, narrow cavity was found containing a 6 inch soft rubber drainage tube lying on the diaphragm. The cavity was drained by a tube which was long enough to extend a considerable distance away from the wound. The incision was closed snugly to the tube. Cultures from the pus yielded a variety of bacteria, including the staphylococcus and hemolytic streptococcus. There was uneventful recovery from the pleural infection in spite of the fact that there was a bronchial fistula communicating with the cavity. The latter became completely obliterated. There was no evidence of peritoneal infection.

This is another case in which the first aspiration was probably done with the needle pointing obliquely to pass through the diaphragm into the empyema. Also, the peritoneum would not have been opened if the aspirating needle had been used after rib resection but before incising what was taken to be the pleura.

CONCLUSIONS

Drainage should be obtained in the most dependent portion of an empyema, acute or chronic.

When the empyema rests on the diaphragm, there is a certain danger of opening the peritoneal cavity either through or below the diaphragm.

Localization of the pus by the aspirating needle at the beginning of the operation and again after resecting a rib before incising into the empyema will obviate the danger of opening the peritoneum.

THE WASSERMANN REACTION IN SCARLET FEVER PATIENTS

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The idea that the Wassermann reaction may be positive because of scarlet fever, independently of syphilis, is apparently current. Having had a desire to learn more as to the truth of such an idea, I have been prompted to make this investigation. The purpose of this report is briefly to summarize the literature bearing on this topic, and to give the results of my own investigations.

At a time when the Wassermann reaction was first beginning to attract attention—before the technic was well standardized, and when many observers were publishing many sorts of conclusions based on their faulty work—there appeared an article by Much and Eichelberg [1] to the effect that this reaction was positive in a large proportion of patients with scarlet fever. Appearing at the time it did, this article naturally made a more profound impression than it would have made if it had appeared later. The impression made by this and certain other confirmatory publications is still with us, though, I believe, it is erroneous. In the same and the succeeding year as the publication of Much and Eichelberg, there appeared at least thirteen papers bearing on the subject and all by German authors. These are summarized in Table 1. In the light of more recent experience it would not seem unlikely that many of these authors used antigens which were anticomplementary or otherwise defective, and faulty technic. It is more instructive to examine the work of the later writers, who have used a more modern and better standardized technic.

1. Much and Eichelberg: Die Komplementbindung mit wasserigen Luesextrakt bei nichtsyphilitischen Krankheiten, Med. Klin. 4: 671, 1908.

Noguchi,[2] using his acetone-insoluble lipoid antigen, found two weakly positive reactions in sixty-two cases of scarlet fever.

In 1911, Kolmer,[3] using as antigen alcoholic extract of liver, noted five positive reactions in 250 cases of scarlet fever. These were observed at single examinations ranging from the thirteenth to the fortieth day of the disease. Apparently none of the patients were reexamined at a later time. In the same material, using the Noguchi antigen, he found sixteen positive reactions. In none of the patients was there a history or sign of syphilis. However, he evidently considers the cases as syphilitic, and concludes that the Wassermann reaction in scarlet fever is uniformly negative.

TABLE 1.—*Early Reports of Wassermann Reaction in Scarlet Fever*

Authors	Antigen Used	No. of Cases	Positive		Comment
			Number	Percentage	
Much and Eichelberg: Med. Klin. **4**: 671, 1908	Watery extract of syphilitic liver	25	10	40	Antigen evidently defective
Seligmann and Klopstock: Berl. klin. Wchnschr. **45**: 1719, 1908	Alcoholic extract of normal human heart	30	16	53	Apparently suspect their own antigen
Halberstaedt, Müller and Reiche: Berl. klin. Wchnschr. **45**: 1917, 1908	Several from syphilitic liver	10	5	50	Weakly positive with one antigen, negative with another
Fraenkel and Much: München. med. Wchnschr. **55**: 2479, 1908	Alcoholic extract of syphilitic liver	12	5	42	
Bruck and Cohn: Berl. klin. Wchnschr. **45**: 2268, 1908	Alcoholic extract of syphilitic liver	28	8	28.5	
Fua and Koch: Wien. klin. Wchnschr. **22**: 522, 1909	Alcoholic extract of guinea-pig heart	57	14	24.5	
Haendel and Schultz: Ztschr. f. Immunitätsforsch., Orig. **1**: 91, 1908	Alcoholic extract of syphilitic liver	48	7	14.5	
Zeissler: Berl. klin. Wchnschr. **45**: 1887, 1909	Alcoholic extract of human heart	42	3	7	
Boas and Hauge: Berl. klin. Wchnschr. **45**: 1566, 1908	Alcoholic extract of normal human heart	61	3	5	Later reactions negative
Jochmann and Töpfer: München. med. Wchnschr. **55**: 1690, 1908	.....	33	1	3	Negative at later examinations
Hecht, Lateiner and Wilenko: Wien. klin. Wchnschr. **22**: 523, 1909	Alcoholic extract of guinea-pig heart	105	3	3	All reacting positively had nephritis
Meier: Med. Klin. **4**: 1383, 1908.....	Watery extract of syphilitic liver	52	1	2	Weakly positive
Schleissner: Wien. klin. Wchnschr. **21**: 1375, 1908	Alcoholic extract of guinea-pig heart	20	0	0	
Hoehne: Berl. klin. Wchnschr. **45**: 1717, 1908	Alcoholic extract of syphilitic liver	37	0	0	

Laederich and Bory [4] report a series of twenty cases, of which nineteen gave positive reactions with a cholesterolized antigen during the first four days of the disease. The reaction then became weak, and was always negative by the fifteenth day. The reaction with the less sensitive antigen was rarely positive, even during the first few days of the disease.

My report concerns a total of 110 cases, of which fifty-two were compiled from the records of the St. Louis Children's Hospital, and fifty-eight were observed by me during the course of this investigation. The Wassermann reactions were performed in the laboratory of the St. Louis Children's Hospital, along with the routine Wassermann tests of that institution. All were carried out with 0.1 c.c. of inactivated serum, with both the alcoholic and the cholesterolized antigens at incubator temperature.

In the compilation of the records of the St. Louis Children's Hospital, the records of all the scarlet fever patients that had been admitted to the hospital in recent years, on whom a Wassermann test had been made, were carefully reviewed. In addition to the fifty-two cases described, there were four cases of clearly defined syphilis, all of which gave positive reactions in both antigens at every examination. Of the fifty-two cases, forty-seven cases gave negative reactions. Five of these patients were examined twice, so that in all there were fifty-two tests, thus distributed according to the week of the disease: first week, twenty; second week, seventeen; third week, five; fourth week, four; fifth week, two; sixth week, one; seventh week, one, and not stated, two. Five patients gave positive reactions in their serum, but only with the cholesterolized antigen. On four of these patients, subsequent reactions were negative. These are summarized in Table 2.

Of the fifty-eight cases, that I studied, nineteen were observed in the contagious wards of the St. Louis Children's Hospital, and thirty-nine in the St. Louis Isolation Hospital. So far as possible, a Wassermann test was made weekly during the hospital stay, beginning with the febrile period during the first week. One patient under observation was not included in this report, as she was known to have had syphilis previously. Of the fifty-eight cases, fifty-three gave negative reactions at all observations. In these fifty-eight cases, 183 observations were made, thus distributed according to the week of disease: first week, thirty-seven; second week, forty-three; third week, forty-three; fourth week, thirty-one; fifth week, eighteen; sixth week, ten, and seventh week, one. Five patients

TABLE 2.—*Wassermann Reactions in Five Cases of Scarlet Fever*

Patient	Week of the Disease			
	2	3	4	
W. E.	.....	C 2 plus	C 3 plus	Neg. 6/11/19 1/ 4/20
V. E.	C 4 plus	Negative	Negative	
M. B.	C 2 plus	Negative	Negative	
E. C.	C 2 plus	C 2 plus		
H. H.	.....	C 3 plus	Negative	

gave positive reactions in their serum, but only with the cholesterolized antigen. All five gave negative reactions subsequently. The positive cases are summarized in Table 3.

COMMENT

There were ten positive reactions observed in 110 cases of scarlet fever. They were positive only in the cholesterolized antigen, and then the positiveness was only transitory.

It must be admitted that a positive Wassermann reaction occurs as a result of scarlet fever; but such a

2. Noguchi, Hideyo: Serum Diagnosis of Syphilis, Philadelphia, 1911, p. 130.

3. Kolmer, J. A.: Complement Deviation in Scarlet Fever, with Comparative Studies of the Wassermann and Noguchi Systems, J. Exper. Med. **14**: 235 (Sept.) 1911.

4. Laederich and Bory: Bull. et mém. Soc. méd. d. hôp. de Paris **43**: 504 (May 29) 1919.

statement whenever made, should have considerable qualifications. In the vast majority of instances of hereditary syphilis, whether latent or active, the Wassermann reaction is positive with the least delicate of antigens. It is seldom that one is called on to give serious consideration to a weakly positive Wassermann reaction in childhood. A strongly positive Wassermann reaction in scarlet fever, in my opinion, would be as good evidence as at any other time. I see no reason why scarlet fever should interfere with the diagnostic value of the Wassermann reaction in childhood. Should any difficulty arise as to the interpretation of a weakly positive reaction in an older person, it is not difficult to retest at a later time.

TABLE 3.—*Wassermann Reactions in Five Cases of Scarlet Fever*

	Week of the Disease				
Patient	1	2	3	4	5
M. S.	Negative	C 2 plus	Negative	Negative	
M. R.	C 3 plus	Negative	Negative	Negative	
E. P.	Negative	C 4 plus	Negative	Negative	
B. B.	C 4 plus	Negative	Negative	Negative	Negative
H. W.	C 2 plus	Negative			

A cholesterin 2 plus reading in childhood is not looked on in the pediatric department of the Washington University School of Medicine as of any significance in diagnosis, although it may be of some importance in treatment, as in the case of E. C. and two others. Such a reaction would be disregarded, whether scarlet fever is present or not.

PROTEIN SENSITIVITY IN CHILDREN WITH NEGATIVE CUTANEOUS REACTIONS

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The percentage of positive protein cutaneous tests in the eczema of infants and younger children has been variously estimated as between 40 and 65 per cent. of the cases.[1] The presumption has been that the remaining negative cases were not due to protein sensitivity. There are, however, a not insignificant number of the remaining cases negative to all proteins used which can clinically be demonstrated to have a protein as the underlying causative factor. Schloss mentions this phenomenon. He reports cases in which there is shown clinically a definite food idiosyncrasy in spite of negative cutaneous protein tests. He states that the ingestion of certain foods, very often cow's milk, results in a gastro-intestinal upset. The type of case I will discuss differs from Schloss' cases in that the reaction to the ingestion of the offending protein is cutaneous, in the form of eczema, rather than gastro-intestinal, as in his cases.

Many cases of eczema run an uninterrupted course from infancy, through early childhood, into adult life and are presumably due to the same etiologic factor. The incidence of positive protein tests, however, drops from a high percentage in children to a very low figure in the adult eczemas. The percentage of positive tests drops off sharply in the second and third years of life.

I have had an opportunity to follow some of these cases of eczema for periods of from two to three years. During this time the eczema in many of the children recurred at irregular intervals. These recurrences could usually be traced to a dietary indiscretion, and in most instances were promptly effaced by dietary adjustments.

While under observation, some of the children showed a positive test to one or more proteins during the early months of life. Under the influence of a proper diet and of the blood's natural tendency toward desensitization, the positive tests often became fainter, and finally disappeared.

This was the case even when the child remained sensitive to the given protein, as was shown by clinical tests, viz., ingestion of suitable amounts of the offending protein. It seems from such evidence that eczema may result from protein sensitivity, in a certain percentage of cases, in spite of a negative cutaneous test.

REPORT OF CASES

CASE 1.—B. C., a boy, aged 2 years, seen in February, 1920, with negative family history, had been breast fed for one year, and then given a suitable general diet. He had acute otitis media six months before I saw him, and a gastro-intestinal upset three months before. He vomited and had frequent loose movements for five days. Then followed very closely a scattered papular eruption on the skin. This eruption had persisted. His birth had been normal. There was a slight rosary. The throat, heart and lungs were normal. The abdomen was prominent and flabby. The extremities were normal. Scattered on the skin were papular lesions. There were two annular lesions on the left arm, scaling. Behind the ears were scaling moist lesions.

Protein cutaneous tests were positive to egg yolk, egg white and oat; negative to casein, lactalbumin, wheat, beef, wheat glutenin, wheat gliadin, wheat proteose, wheat globulin, wheat leukosin, almond, pork, rye, pea, lamb and orange. It will be noted that neither casein nor lactalbumin gave a positive test.

Following these tests, egg and oat were omitted from the diet. The eczema improved but did not entirely clear up, showing occasional exacerbations until ten months later, when the following occurred:

Four days preceding the attack to be described, the child had a birthday party. Milk had been limited in the child's diet, but the mother felt that junket would be a safe treat. The child ate three large saucerfuls of junket. The following day he had a poor appetite, slept poorly that night, and complained of general abdominal pain in the morning. He ate no breakfast, and vomited several times; still he complained of abdominal pains during the day.

Examination showed a rapid pulse, respirations of 40, and a normal temperature. Breathing was labored, with substernal and suprasternal retraction. Auscultation revealed many scattered musical râles with prolonged expiration. The skin showed scattered patches of eczema which, according to the mother, had become definitely worse since the party. Examination was otherwise negative.

All milk and milk products were eliminated from the child's diet. In three days this typical asthmatic attack subsided; the skin condition improved and finally cleared entirely.

Skin tests for casein and lactalbumin were again negative.

Two months later the mother started giving top milk, and a marked exacerbation of the eczema occurred. She was again instructed to omit milk.

Seven months later, the child had an attack of vomiting lasting for two days. This followed ingestion of milk used in corn bread.

Five months later, he had an attack of asthma, following the eating of milk chocolate.

1. Blackfan, K. D.: Am. J. M. Sc. **160**: 341 (Sept.) 1920. O'Keefe, E. S.: Boston M. & S. J. **183**: 569 (Nov. 11) 1920; A Dietary Consideration of Eczema in Younger Children, J. A. M. A. **78**: 483 (Feb 18) 1922. Schloss, O. M.: Allergy in Infants and Children, Am. J. Dis. Child. **19**: 433 (June) 1920. Sidlick, D. M., and Knowles, F. C.: Value of Cutaneous Sensitization Tests Employed in Eczema and Papular Urticaria of Childhood, Am. J. Dis. Child. **23**: 316 (April) 1922. Engman, M. F., and Wander, W. G.: Application of Cutaneous Sensitization to Diseases of Skin, Arch. Dermat. & Syph. **3**: 223 (April) 1921.

This child, however, gave negative tests to both milk proteins during these two years, in spite of repeated attacks of asthma and exacerbations of eczema following ingestion of milk proteins.

CASE 2.—A child, aged 9 months, receiving breast milk, with one bottle composed of 6 ounces of whole milk and 2 ounces of water, had had eczema since 4 months of age, the condition being worse when supplementary feeding was added.

The cutaneous test for casein was positive.

Supplementary feeding was changed to a formula of 3 per cent. fat, 6 per cent carbohydrate and 0.25 per cent. protein. Breast feeding was continued. The child remained on this feeding schedule for three months, during which time the skin improved very decidedly. A small patch persisted on the arm, and a recurrent patch near one ear. Both were about 1.5 cm. in diameter. Soups, cereals and crackers were added to the diet.

As the child approached the age of 1 year, more bottles of the foregoing formula were added without evident harm.

After six months on this low milk protein diet, the cutaneous test for casein was negative. Increase of the casein content of the formula at this time showed, however, that the child was still sensitive to casein, in spite of the negative cutaneous test.

COMMENT

In the three years' existence of the eczema clinic at this hospital, numerous similar instances have occurred in which protein sensitivity could be clinically demonstrated in spite of negative cutaneous tests.

Temporary desensitization will not account for the phenomenon described, since the protein tests were repeatedly negative rather than negative only during a time of possible antianaphylaxis.

A lack of skin sensitivity is suggested by Schloss in regard to his cases of allergy which showed gastric intestinal manifestations. Such a lack of skin sensitivity does not exist, however, in the type of cases under discussion, as shown by the frequent recurrences of eczema following ingestion of the offending protein.

The phenomenon does suggest the possibility of a threshold of skin sensitivity to protein. Such a threshold we may presume to be higher in some cases than in others. In the first case outlined, the threshold is too high for the cutaneous test to elicit a response. A response occurred only after larger doses of protein were brought to the skin. Such larger doses, we may presume, are brought through the natural circulatory channels after ingestion of a given protein—doses large enough to cross the heightened threshold of skin sensitivity. A response is elicited, and manifests itself clinically as an eczema.

The raising of this threshold as the patient gets older would explain the diminished frequency of eczema after the early years of life. It would also explain the infrequency of positive cutaneous tests in those older children and adults in whom eczema does occur.

Individual variation in the height of the threshold of stimulation in various organs might well explain why ingestion of egg albumin, for instance, may result in eczema in one child, while, in another, asthma results.

Variation of the threshold height among the different tissues in a given child would explain the occurrence, as in Case 1, of an eczema first with an asthma later when the protein stimulus is increased.

SUMMARY

In the eczema of infancy there exists a certain percentage of cases in which the patient can be clinically demonstrated to be sensitive to a given protein. These patients do not give any cutaneous response to the protein tests.

Variation of the height of the threshold of sensitivity in the various tissues of a given individual may be the factor which determines whether hay-fever, asthma or eczema will result from foreign proteins with which the tissues are brought in contact.

483 Beacon Street.

THE RÔLE OF TRANSILLUMINATION IN DISEASES OF THE NASAL ACCESSORY SINUSES

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The majority of textbooks dealing with diseases of the nasal accessory sinuses affirm or concede that transillumination is a more or less valuable diagnostic agent in conditions affecting the maxillary and frontal sinuses. In practice, however, one is surprised to find how infrequently it is used, and with what skepticism its value is appraised. As a result, the diagnosis of maxillary sinusitis, which should be the easiest to diagnose of all the sinuses, is missed in an astonishingly large percentage of cases.

In a recent article, Billings [1] says: "Diagnosis is the most important factor in the practice of medicine. Until the diagnosis is made, treatment may be ineffectual and often is irrational." The importance—economic as well as physical—of making an early diagnosis in sinus disease is too obvious a fact to need embellishment. It is nevertheless true that an early diagnosis of sinus disease is seldom made by the general practitioner unless the patient is suffering with localized pain over the region of the sinus affected.

The average internist has neither the training nor the equipment to detect pus between the middle turbinate and the outer wall of the nose. He is therefore often surprised and not a little chagrined when he sees an ounce or more of foul pus washed out of an antrum of a patient he has been unsuccessfully treating for a "cold" for two or more weeks. The patient is likewise chagrined when informed that he must have daily irrigations for another ten days or two weeks, for this involves an economic as well as physical hardship.

In such cases the specialist is frequently asked by the general practitioner how he may suspect an antrum infection, since the patient does not complain of pain. This is best answered by again quoting from Billings:

> The general practitioner cannot be proficient in the more refined methods of examination which are necessary in the practice of the specialties of medicine and surgery. But he can and should be able to recognize the more common diseases of the eye, ear, pharynx, accessory nasal sinuses, locomotor apparatus, rectum and female pelvic organs with the simple available means at hand; furthermore, he should possess and use in routine practice . . . rectal, aural and vaginal specula, laryngeal mirrors, head mirror, . . . and an inexpensive electric light device, with storage battery, if this is needed, is now available for transillumination of the nasal accessory sinuses, jaws and other tissues. Daily use of these instruments will develop technical skill and make them valuable aids in diagnosis.

If the general practitioner who lacks the training essential for a proper nasal examination will disillusion himself of the erroneous idea that one cannot have sinusitis without pain, and if he will equip himself with a small portable transilluminator and use it as a routine in all cases in which the patient complains of a rhinitis,

1. Billings, Frank: The Resourceful General Practitioner of Modern Medicine, J. A. M. A. 80: 519 (Feb. 24) 1923.

he will seldom fail to diagnose a sinus infection, especially if it is unilateral and involves one of the maxillary sinuses. It must not be inferred from the foregoing statement that transillumination is *the* diagnostic sign in sinusitis. It is not. There is no one diagnostic sign in sinusitis, not even roentgenograms. But transillumination is such a simple procedure, requiring no special training or skill in its employment, and it so very frequently gives a hint or suggestion, that its positive evidence always merits thorough investigation.

The indictment of the general practitioner in the case of sinusitis applies with almost equal force to too many specialists in rhinology. Some idea of how frequently the specialist fails to diagnose sinus involvement may be gained from a perusal of the reports of the nose and throat clinics in any large city. The statistics given in the accompanying table are taken from the reports of four large nose and throat clinics in New York City.

Diagnosis of Sinus Involvement in Four Clinics

Number of nose cases treated	3,190	Maxillary sinus cases	9
Number of nose cases treated (four consecutive years)	5,637	Antrum punctures	12
Number of nose and throat cases treated	1,051	Acute sinus cases	3
		Chronic sinus cases	14
Number of cases of rhinopharyngitis	1,175	No sinus cases noted.	
Total	11,053		38

Those who are familiar with prevalence of sinusitis throughout the country, not even excepting California, will realize that these figures signify only one thing, namely, failure to recognize sinus disease. What the cause of this failure is, it is idle to discuss. The method of remedying it, however, is very simple—to make transillumination a part of every routine examination of the nose. Nor is the failure confined to the clinics alone: it is seen almost daily in private practice. A recent case of mine illustrates what is by no means an infrequent occurrence:

Mrs. J. K., aged 53, had been troubled with nasal discharge and polypi since 15 years of age. She had had polypi, "bone and flesh" removed from the nose at least twenty times by five recognized specialists. During this period she had suffered constantly with asthma. Questioned concerning any treatment of the sinuses (before I had made any examination), she stated that nothing had been done to the sinuses except that a year before some roentgenograms were taken, and she was told that they showed nothing except some "granulations." Following the roentgenograms she had an intranasal operation on the left ethmoids. Examination of the nose revealed both nares very spacious and filled with pus. Both middle turbinates had been entirely removed, and a large portion of both inferior turbinates had likewise been sacrificed. There was edematous, polypoid tissue in the left middle meatus in the region of the left nasofrontal canal. Transillumination of the sinuses showed a right frontal sinus that illuminated fairly well, the left frontal sinus being considerably darker. Both antrums were very dark. Examination of roentgenograms confirmed the findings on transillumination; i. e., the right frontal sinus was only slightly cloudy; the left frontal sinus and both antrums very cloudy. Both naso-antral walls were cocainized beneath the inferior turbinates, and punctured and washed out. Nearly an ounce of broken down pus was washed out of both maxillary sinuses. The next day, the frontal sinuses were both irrigated; the return fluid was clear from the right frontal sinus, and contained a small amount of pus from the left side.

For thirty-eight years, this patient had been consulting recognized specialists from time to time; not one of the five had ever investigated the sinuses except the one who had some roentgenograms taken, and he had accepted the roentgenographer's report as a final diagnosis. It may be argued that the presence of polypi and discharge should have, in themselves, been sufficient indication of sinus involvement, and that transillumination was not essential. This brings us to the next important feature about transillumination—its value as an indicator of what sinuses may be involved. It is no unwarranted assumption to state that, in the case here reported, a diagnosis of ethmoiditis was made, for the treatment was directed solely to this region. Had transillumination been employed and the darkness of the antrums investigated, treatment of the latter would probably have avoided the sacrifice of both middle turbinates and the entire ethmoid labyrinths. The common error of directing treatment to the ethmoid cells, often to the extent of sacrificing them in toto, while allowing an antrum full of pus to remain neglected, is in large part traceable to failure regularly to employ or properly to interpret transillumination.

The criticism that transillumination is unreliable is based on the fallacious premise that occasionally an antrum will illuminate darkly, and on puncture will be found to contain no secretion. This does occur; but if one will consider transillumination as only one of the signs of sinusitis, and if he will correlate its evidence with the other physical signs and compare the transillumination with the roentgenographic evidence (not the report of the roentgenographer), he will seldom be misled. Better by far to puncture an antrum with negative results than to allow an antrum filled with pus to escape proper treatment. No harm results from a properly conducted diagnostic puncture, while irreparable damage is done by removing large amounts of nasal mucous membrane from the ethmoid region—tissue capable of returning to a normal state—leaving untouched a reservoir of pus in the maxillary sinus.

CONCLUSIONS

In order to appreciate the valuable aid obtained by transillumination in diseases of the maxillary and frontal sinuses, these points should be kept in mind:

1. It must be used as a routine part of every nasal examination.

2. Its evidence is not infallible, but must be correlated with the other signs of sinusitis—the history, the presence and location of pus in the nose, and the appearance of roentgenograms.

3. Positive findings always merit full investigation, even puncture and irrigation.

4. Negative evidence on transillumination does not rule out sinusitis in the presence of other positive signs.

5. Due allowance must be made for the degree of illumination to be expected in patients with thick bones as compared to fair skinned, thin walled patients. Patients who have had one or more previous attacks of sinusitis with a resultant thickening of the mucous membrane lining the sinus will often illuminate with varying degrees of darkness, even though no secretion is present in the sinus.

When used in this manner, the accumulated experience obtained by routine daily use will prove transillumination to be a most valuable aid (1) for the general practitioner untrained in nasal examination; (2) as an indication that something more than the ethmoid sinuses is involved; (3) as a check on the interpretation of roentgenograms, and (4) as an indication of the progress of treatment.

29 East Sixty-Fourth Street.

POSITIVE WASSERMANN TEST IN A FATAL CASE OF ESTIVO-AUTUMNAL MALARIA*

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This case is reported because of the control of a positive Wassermann reaction by necropsy in a case of malaria, that clinically showed no evidence of syphilis. The earlier statements to the effect that a positive Wassermann reaction may occur in malaria, without syphilis, were based largely on clinical examinations.

REPORT OF CASE

History.—L. D., a white man, aged 48, well developed and well nourished, a structural iron worker, stated that he had had several attacks of gonorrhea, and that about twenty-five years before he had had a chancre for which he received intravenous therapy. Examination revealed a slight scar on the corona. In July, 1921, about three months before admission, he noticed that he did not seem as strong as usual and was unable to do the heavy work required. He was in New Orleans at the time, and remained there until about a week before admission, when he "beat" his way north to Cleveland. For three weeks he had noticed that he staggered slightly on walking, and he had been somewhat dizzy. He was somewhat amnesic.

Examination.—The pupils were small, irregular and reacted sluggishly to light, and also, though to a less degree, to accommodation. On account of his general condition, no Romberg test was made. The tendon reflexes were present and normal; the abdominal and cremasteric reflexes were absent. No other abnormalities were found.

The temperature on admission, Oct. 15, 1921, was 38 C. (100.4 F.) and rose to 40.8 C. (105.2 F.) at midnight. On the following days it would fall to 37.4 C. (99.3 F.) and then rise to 40.4 C. (104.7 F.). He became progressively worse, and developed icterus and delirium; death took place, October 19. Blood examinations showed an average of about 11,000 white cells, 3,500,000 red cells, and 75 per cent. hemoglobin. Many parasites were found in the red cells, but only three definite crescents were observed. The urine contained albumin, granular casts and a few leukocytes, but no red cells. There was no hemoglobinuria.

The spinal fluid was clear without increase in pressure; ten cells were present, all mononuclear; globulin tests were negative. The Wassermann reaction with blood taken during the febrile stage was four plus; no particular significance was attached to this, as it was thought it was due to the presence of malaria.

The clinical diagnosis was malignant tertian malaria.

Necropsy.—This was performed twenty-four hours after death. No abnormalities of the external genitalia were noticed. The heart weighed 450 gm.; the muscle was pale brown and very flabby. The aortic orifice measured 10 cm., and the aortic leaflets were distinctly and uniformly thickened, but there were no vegetations. The coronary cusps were slightly adherent at their attachments. Nothing abnormal was noted in the remaining orifices or leaflets. Immediately above the aortic orifice and extending, in diminishing degree, to the celiac axis, there was an extensive mesaortitis. The surface of the vessel was thrown into many fine longitudinal wrinkles, and scattered throughout were many circumscribed areas of a pearly gray, hyaline fibrosis. In addition, there were irregular, yellowish areas of atheroma, and in many places definite scars with a disappearance of the media. These scars were depressed, and stellate in shape. About 4 cm. above the aortic leaflets, on the anterior wall of the aorta, was a slightly bulging area about 1 cm. in diameter. This was composed of scar tissue and, when held to the light, was thin and translucent; it was apparently a beginning aneurysm. The spleen weighed 500 gm. Its capsule was light purple, and ruptured readily, allowing the semiliquid, dark red pulp to escape. Not the slightest differentiation could be made out. The organ seemed to be enlarged upward under the diaphragm rather than downward. The kidneys weighed 350 gm., and were slightly enlarged, pale and flabby. The capsule stripped easily and allowed the tissue to bulge. The cut surface was pale, the cortex was somewhat thickened, and striations were indistinct. The glomeruli were not apparent. In some places there was very little differentiation between pyramids and cortex. In the lower poles the pyramids were congested and striated. The pelves were normal. The liver weighed 2,000 gm., and presented evidences of an old hepatitis on the upper surface of the right lobe.

Microscopic Examination.—This was incomplete, but the principal features discovered were: The heart muscle fiber bundles were somewhat pushed apart by edema, and some areas showed definite increase of connective tissue around the individual fibers. Many of the fibers contained much granular, yellow pigment that extended outward from the opposite poles of the nuclei. There was also some fragmentation. The liver presented a dense lymphocytic infiltration around the portal vessels. The lobules were congested, particularly in the peripheral zone, and the sinusoids contained a large amount of almost black pigment granules. Some pigment was free, but most of it was within endothelial cells. Many of the liver cells also contained a large amount of a similar pigment. The spleen was so congested that normal relations were destroyed. The entire tissue was filled with a dark brown, almost black, granular pigment, which was both intracellular and extracellular. The pigmented cells had a large oval nucleus surrounded by a large amount of cytoplasm.

The aorta presented slight subintimal degeneration, but the chief changes were within the tunica media. There were many large areas of well advanced fibrosis containing many lymphocytes and some plasma cells. The round cell infiltration was particularly conspicuous along the course of the vasa vasorum. An extensive infiltration of similar nature was present in the adventitia.

The cerebral capillaries were congested and many of the red cells in these vessels contained a definite granule, or a small mass of minute granules, of an almost black pigment. Similar congestion and pigmentation of the red cells was observed in the vessels of the cerebellum.

Anatomic Diagnosis.—This was: edema of the brain, with intravascular pigmentation; anthracosis, edema and congestion of the lungs, with catarrhal bronchitis, and bronchopneumonia; cloudy swelling of the myocardium; insufficiency of the aortic orifice, syphilitic mesaortitis and beginning aneurysm of the aorta; slight cardiac hypertrophy and dilatation; chronic parenchymatous nephritis, with an acute exacerbation; acute splenic tumor; chronic perihepatitis; pigmentation of the liver, spleen and brain.

COMMENT

In this case there were no clinical findings indicative of syphilitic changes, in spite of the history of infection. The necropsy, however, disclosed very definite syphilitic lesions of the aorta, with involvement of the aortic leaflets. In general, experience at this hospital has been that when a necropsy has been performed on a body from a person who has given a positive blood Wassermann reaction, lesions have been discovered that were evidently syphilitic in nature. This case of malaria proved no exception to the rule.

* From the Departments of Pathology, Cleveland City Hospital and Western Reserve University.

* Owing to lack of space, this article is abbreviated in THE JOURNAL by omission of a review of previous literature. The complete article appears in the author's reprints.

† Dr. McConnell died, January 5. Among his papers was a report of the case here recorded, which was prepared for publication by Dr. Howard T. Karsner and Dr. E. E. Ecker

Modern Science and Current Practice.—The findings of modern science have shaken the hold of the sources of medieval authority, but they have done little as yet to loosen our inveterate habit of relying on the more insidious authority of current practice and belief.—Robinson: The Mind in the Making.

AUTOSERUM TREATMENT OF PNEUMOCOCCUS MENINGITIS COMPLICATED BY SYPHILIS

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Intraspinal injection of autoserum has recently been used with considerable success in the treatment of pneumococcus meningitis;[1] but references in the literature[2] warn against its use in cases complicated by syphilis, for fear of spreading this disease to the meninges. This caution seems to be founded on premature judgment, for the patient with syphilis who develops a secondary meningitis may be safely and wisely so treated by combining the autoserum with arsphenamin in the form of modified Swift-Ellis treatment.

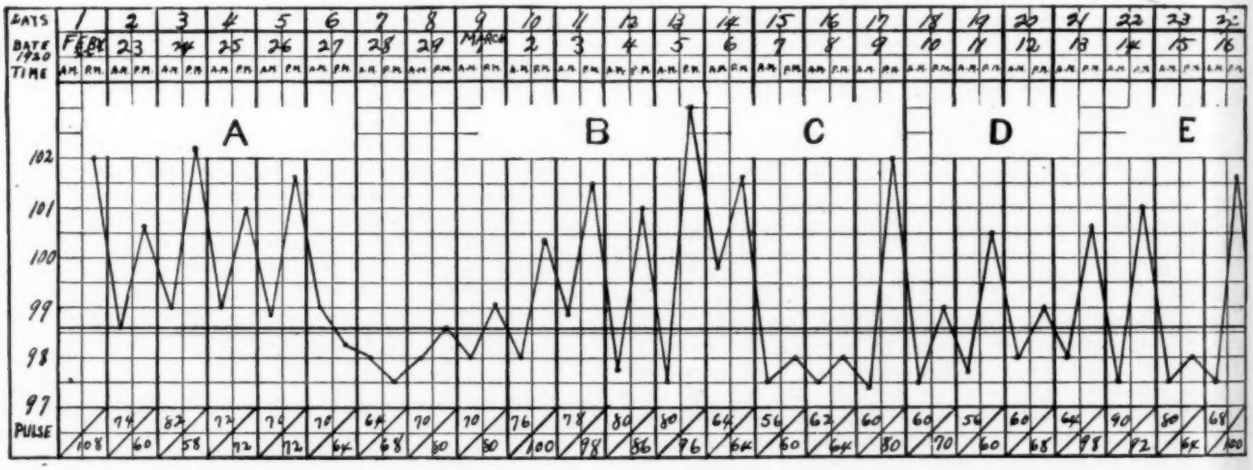
REPORT OF CASE

History.—G. H. S., an American farmer, aged 22, married, entered the hospital, Feb. 22, 1920, complaining of headache, vomiting and fever. Two weeks before, he had had influenza complicated by influenzal pneumonia, but for three or four days had been up and around the house. Twenty-four hours before admission, he began to ache all over, and had a severe headache, high fever, rigidity of the neck, nausea and vomiting. The condition progressed until he had become more or less unconscious and delirious. During this time, his entire family had had influenzal pneumonia; two children died, a third was seriously ill, and his wife was not expected to live. There was nothing significant in the previous history except syphilitic ulcer in 1915, for which he had been given one dose of arsphenamin and several doses of sodium cacodylate. The Wassermann test had never been made.

Physical Examination.—The patient was rather anemic and undernourished; he lay with the head retracted, the thighs flexed, and in a state of delirium. Every few minutes he would cry out and put his hands to his head, as though in pain. There was more or less constant muttering, with extreme restlessness and frequent attempts to get out of bed. The neck was extremely rigid; the pupils were small but equal; respiration was shallow, and the abdomen was of the scaphoid type, with no evidence of pathologic change in the chest or the abdomen. A scar on the penis near the frenum was observed. Koenig's sign was positive; the knee jerks were normal; the Babinski and Gordon-Oppenheim tests were negative, and ophthalmoscopic examination revealed double choked disks. Spinal puncture yielded 30 c.c. of a very cloudy fluid under greatly increased pressure.

Laboratory Examination. — The red blood cells were 4,070,000; white cells, 25,000; hemoglobin 70 per cent., and the blood Wassermann reaction positive (++++). The specific gravity of the urine was 1.034; the urine was acid in reaction, with a trace of albumin but no sugar, casts or pus. The spinal fluid cell count was 16,400, of which 96 per cent. were polymorphonuclears. No organisms were found in the direct smear, but a twenty-four hour culture yielded numerous small, moist colonies with a greenish halo about them. Smears revealed a lanceolate, encapsulated, gram-positive diplococcus identified as pneumococcus.

Clinical Course.—This divides itself into six periods. The period of treatment with polyvalent antipneumococcus serum includes the first five days. As a precautionary measure, 30 c.c. of meningitis serum was given intravenously on admission, and twelve hours later 30 c.c. intraspinally; but at the end of twenty-four hours a positive diagnosis of pneumococcus meningitis had been made, and thereafter polyvalent pneumococcus serum was given in the vein at twelve and twenty-four hour intervals, totaling 250 c.c. in four days. The spinal cell count rose, February 23, to 20,000 per cubic millimeter, but, February 27, it had dropped to 3,500, and treatment was discontinued. Marked impairment of hearing had been observed, February 23, and the patient had complained of blurred vision. February 27, he developed an arthritis of the left wrist, but otherwise was rapidly improving and apparently cured of his meningeal infection, the temperature remaining normal three days.



Temperature: *A*, severe, acute, meningeal symptoms—headache, vomiting, partial deafness and delirium; polyvalent antipneumococcus serum, autoserum intraspinally—phenomenal relief of symptoms; *D*, period of spinal irrigations with from 50 to 100 c.c. of physiologic sodium chlorid ventricle infection in which there was intermittent drainage, but ventricular puncture not done; *F*, period of arsphenaminized autoserum with no sequel except impaired hearing, slight in both ears; blood and spinal Wassermann reactions negative.

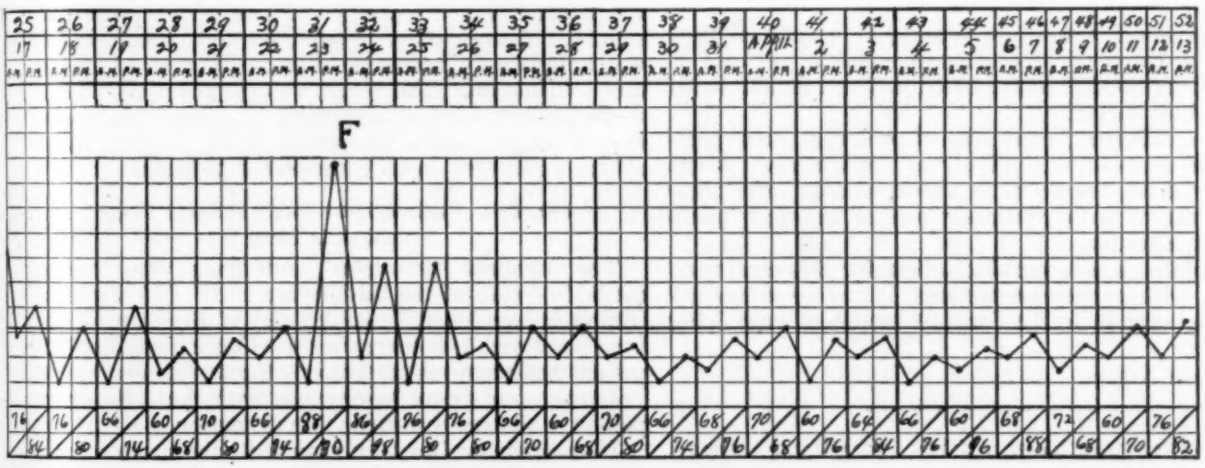
March 1, the period of urticaria began, and with it meningeal symptoms returned. For four days the temperature fluctuated, going as high as 103 F., and the spinal cell count ranged from 3,240 to 4,450. Owing to fear of anaphylactic shock, the use of antipneumococcus serum was not resumed, since desensitization in other cases had proved unsatisfactory and dangerous. Spinal punctures gave temporary relief, but the patient was becoming progressively worse, and seemed doomed. It was at this time, March 6, that autoserum treatment was instituted, and 20 c.c. of the patient's own blood serum injected intraspinally. The first dose caused the spinal cell count to jump from 7,612 to 24,600 in eight hours and the temperature to normal in twelve hours, where it remained for more than two days, at which time the spinal cell count had dropped to 650; and, again, it appeared as though the patient were recovering. He received four injections of autoserum at twenty-four hour intervals, but prior to the last, March 9, he had a second relapse with temperature rising to 103 F. and spinal cell count to 18,100. Smear of the spinal fluid at this time showed

1. Sanders, T. M.: Am. J. M. Sc. **159**: 246 (Feb.) 1920.
2. Goodman, A. L.: Arch. Pediat. **33**: 649 (Sept.) 1916.

many encapsulated, lanceolate, gram-positive diplococci, but the cultures were sterile. It was thought that there was a focus somewhere in the meninges or lateral ventricles which was draining intermittently and reinfecting the entire meninges, thus accounting for the apparent relapses.

For fear of spreading syphilis to the central nervous system, the autoserum treatment was discontinued, and from March 10 to 13 spinal irrigations were given at from twelve to twenty-four hour intervals with slight improvement, the cell count varying from 5,291 to 880, and the temperature from 101 to 99 F. March 12, blood examination showed 3,100,000 erythrocytes, 65 per cent. hemoglobin and 16,200 leukocytes; urinary findings were still negative, and the spinal cell count was 1,120. A fifth injection of autoserum was given, March 13, and the following day 0.2 gm. of arsphenamin given with the aim of instituting arsphenaminized autoserum; but an immediate chill with a severe reaction caused postponement of this procedure. It was noted, however, that the ensuing thirty-six hour period showed marked improvement, with normal temperature, and the spinal cell count dropped as low as 331. The urine remained negative. The patient then (March 16) had another temperature rise to 101.6 F., and spinal cell count to 2,992.

March 18, blood count showed 3,370,000 erythrocytes, 65 per cent. hemoglobin and 9,200 leukocytes; spinal cell count, 1,573; and spinal Wassermann reaction positive (++++). The patient's condition was gradually growing worse in spite of intermittent periods of relief, and puncture of the lateral ventricles was seriously considered to institute drainage, but deferred in favor of continued autoserum treatment combined with arsphenamin. He was given 0.4 gm. of arsphenamin, and fifteen minutes afterward 120 c.c. of blood was drawn for use as arsphenaminized autoserum. This was given in 20 c.c. doses at intervals of forty-eight hours, and the patient showed the most marked improvement he had yet had. March 21, he was practically normal, with spinal cell count of 92; but March 23 he had his last relapse, the temperature rising to 102 F. and the spinal cell count to 6,952. March 24, 0.5 gm. of arsphenamin was given, and arsphenaminized autoserum on the two succeeding days. From this time on, the temperature remained normal, the condition gradually improved, and the spinal cell count dropped to 9, April 6, when the patient was sitting up and apparently out of danger.



250 c.c. in vein; *B*, period of urticaria—severe itching, photophobia, vomiting, headache, and return of deafness after period of relief; *C*, solution; *E*, period of intravenous arsphenamin plus spinal irrigations with physiologic sodium chlorid solution; patient thought to have lateral intraspinally; prompt relief of symptoms; two days after first treatment, he felt better than at any previous time; gradual return to normal,

COMMENT

Spinal irrigations with physiologic sodium chlorid solution were continued at intervals of from twelve to forty-eight hours throughout the course of the disease as a matter of safety to insure drainage.[3] The first dose of arsphenamin though small, caused quite a severe reaction, but exerted no depressing effect on any of the vital functions, and no increase of albumin or casts in the urine. The jump in the spinal cell count from 7,612 to 24,600 in eight hours following the first intraspinal injection of autoserum was considered a good sign, and was thought to be due to opsonins of the blood being applied in enormous quantities directly to the seat of infection.[4] Injection of the serum always caused more or less pain in the abdomen and legs, and occasionally slight increase of headache, but no severe or alarming symptoms.

Autoserum treatments begun on the fourteenth day of illness with untreated serum were discontinued after five doses, and arsphenamin was begun on the twenty-second day because of the patient's serious condition requiring it as a means of rendering the autoserum safe for intraspinal injection. These treatments were resumed after the second dose of arsphenamin on the twenty-sixth day of illness in the form of modified Swift-Ellis treatment, thus combining the antisyphilitic treatment of arsphenamin with the autoserum treatment for the meningitis, forming a combination of therapy which, in our judgment, resulted in the patient's recovery. Altogether, he received five doses of untreated autoserum, six doses of arsphenamin, and seven doses of arsphenaminized autoserum—three injections after the second dose of arsphenamin, two after the third, one after each of the fifth and sixth doses, and none following the first and fourth doses. He received a total of thirty-seven spinal punctures and irrigations, and was discharged on the fifty-second day of the disease, cured of his meningitis, and blood and spinal fluid Wassermann reactions negative. Dec. 12, 1921, the only sequel to be discovered was partial impairment of hearing; the blood Wassermann reaction was again positive (++++); he had had no treatment since leaving the hospital, felt perfectly well, and refused spinal puncture.

Speculation as to the relative value of the various therapeutic procedures employed during the course of this case can result in no absolute dictum; but a comparison of the second half of the temperature chart with that of the first is rather convincing as to the

3. Farmachidis, C. B.: Gaz. d. osp. **40**: 988 (Nov. 13) 1919; abstr. J. A. M. A. **74**: 1132 (April 17) 1920.

4. Weaver, A. H., and Tunnicliff, Ruth: J. Infect. Dis. **9**: 130, 1911.

promptness and permanence of relief. Whether he developed an immunity to his infection regardless of the arsphenaminized autoserum treatment or by virtue of it cannot be stated with certainty; but the results obtained were sufficient to warrant its recommendation for use by others. Certainly, the arsphenamin directly combated a serious handicap under which the patient was laboring, and indirectly aided his fight against the pneumococcus infection and made the serum safe for intraspinal injection.

TECHNIC

Arsphenamin is given in the usual manner at a temperature of from 100 to 105 F., diluted in 200 c.c. of freshly distilled water. Fifteen minutes after the last of the solution has entered the vein, from 4 to 6 ounces (120 to 175 c.c.) of blood is drawn aseptically and allowed to stand a few hours in the icebox for the serum to separate. This is pipetted off in doses of from 12 to 20 c.c., and sealed. A mixture of more or less blood cells does not injure the serum for intraspinal use. At the time of spinal puncture, the fluid is warmed to body temperature and slowly injected with a Luer syringe after withdrawal of from 30 to 50 c.c. of spinal fluid. Following injection of the serum, the foot of the bed is elevated 12 inches for a period of four hours.

CONCLUSIONS

1. Intraspinal autoserum therapy is a rational procedure in cases of secondary meningitis, because it brings the antibodies of the blood in direct contact with the invading bacteria.

2. It is indicated in any case of prolonged meningitis in which the continued giving of stock serum would endanger from anaphylactic shock, and is safer than desensitization with continued use of antigens made from horse serum.

3. Syphilis is no contraindication for this treatment because, with proper precautions, it can be combined with arsphenamin in the form of modified Swift-Ellis treatment.

1028 Fifth Avenue.

MANAGEMENT OF THE FEMALE URINARY BLADDER AFTER OPERATION AND DURING PREGNANCY

A FURTHER STUDY OF RESIDUAL URINE IN ITS BEARING ON URINARY TRACT DISTURBANCES *

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CHICAGO

The normal bladder is highly resistant to infection. It also appears that those infections which do develop in the properly functioning healthy bladder quickly disappear unless maintained by kidney lesions.

A notable exception to these observations is found in the frequent occurrence of cystitis following pelvic operations. In search for an explanation of this complication, we discovered, eight years ago, that patients who are repeatedly catheterized after operation usually fail to regain immediately the power of complete evacuation. This discovery led to the suspicion that residual urine may be an important factor in the development of postoperative cystitis.

A second exception to the rule that the bladder is resistant to infection and tends to heal quickly is found in the occurrence of pyelitis during the course of pregnancy and in the puerperium. And here, again, I found that retention of several ounces of residual urine is frequently demonstrable. If a residue of urine after micturition is not evident at the time pus is discovered in the urine, the history usually reveals that it has been present during the earlier months of pregnancy.

As previously pointed out,[1] both in disease and in experimental work it has been found that if virulent bacteria enter the normal bladder, they tend to do no harm.[2] In view of this evidence of others, combined with corroborative personal experience, it seemed highly probable that the added complication of residual urine is the factor that accounts for many otherwise inexplicable urinary tract infections, notably postoperative infections and those complicating pregnancy. A study of residual urine in its bearing on urinary tract disturbances forms a basis for the present report.

PREVIOUS MANAGEMENT OF THE BLADDER

Previous to 1915, few infections resulted among patients who were not subjected to catheterization after operation, but suffering from distention was often so severe that we decided it was preferable to relieve with the catheter when necessary. The urine was drawn for relief of distress from distention, and catheterization was immediately discontinued on resumption of spontaneous urination. The result was comparative comfort to the patients, with an aftermath of urinary tract infection in many cases; the possibility of pyelitis was a source of anxiety in all catheterized patients.

PRESENT METHOD OF MANAGEMENT OF THE BLADDER

The cardinal principles underlying our present method of care of the bladder are two: (1) Catheterization is avoided if possible; (2) if the catheter has been employed, it is thereafter used once a day until the patient has regained the power of complete evacuation.

Despite our desire to dispense with the catheter, no patient is allowed to suffer from distention.

If the catheter has been required only once or twice, the patient is carefully watched for symptoms of retention or infection (frequency, distress, pyuria). Further treatment may not be indicated.

Whenever it has been necessary to draw the urine repeatedly, a catheter is thereafter passed once each day, immediately after urination, until residual urine disappears. In the performance of this test, a boiled rubber catheter is preferred, the parts are cleansed with weak mercuric chlorid solution, and a few cubic centimeters of ⅛ per cent. silver nitrate is instilled before withdrawal of the catheter.

Residual urine of less than one ounce is considered normal if free from pus; when pus is present, the test is repeated once daily for two or more days.

Hexamethylenamin is given in an amount just short of that which causes burning or, preferably, in a quantity sufficient to reveal formaldehyd in the urine. Acidity of the urine is maintained with benzoic acid or acid sodium phosphate.

MATERIAL STUDIED

It has been possible to study our present plan of treatment in the management of 1,595 female patients

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* Read before the Chicago Gynecological Society, March 16, 1923.
* From the Pathological Laboratory and Gynecological Service of St. Luke's Hospital.
* Previous work was described by the author in an article entitled "A Study of Bladder Function," Surg., Gynec. & Obst. **29**: 24 (July) 1919.

1. Curtis, A. H.: Stasis of Vesical Urine in Relation to Urinary Tract Infections, J. A. M. A. **66**: 1456 (May 6) 1916.
2. In typhoid fever, with bacilluria in more than 20 per cent., cystitis is rare. Mathers, in a series of twenty-five patients with pneumonia, demonstrated a pneumococcus bacteriuria in twelve; not one yielded clinical evidence of cystitis. Rovsing found that instillation of large quantities of virulent bacteria into the healthy bladder produces no change in the mucous membrane.

subjected to important surgical operations. The following have been excluded from consideration: operations of a minor surgical nature; operations involving the kidneys, ureters or vesical mucosa; urinary tract infections present at the time of admission to the hospital; carcinoma cases revealing mechanical interference with urinary tract function, and patients mentally incapacitated, intractable to treatment, or not available for follow-up study.

The catheter was not required in 66 per cent. of the total number of patients; in 11 per. cent. it was employed once, in 5 per cent. twice, and in 17 per cent. the urine was drawn at least three times (Table 1).

TABLE 1.—*Management of the Bladder After 1,595 Important Abdominal and Pelvic Operations*

	Number of Catheterizations			
	None	One	Two	Several
Number of cases	1,051	187	88	269
Residual urine	8	12	24	173
Urinary tract infection:				
Treatment faulty	0	0	0	9
Treatment approved	0	0	0	3

Of 1,051 patients not subjected to catheterization for distention, several were tested for residual urine because of unusual frequency of urination or other symptoms suggesting retention. Residual urine was discovered in less than 1 per cent. of this group. None suffered from urinary tract infection.

No infection occurred among 187 patients catheterized but once for distention. Residual urine was detected in 6 per cent., but disappeared very promptly, usually within two days.

Eighty-eight patients, relieved by two catheterizations, showed residual urine thereafter in 27 per cent. Slight infection occurred a few times, but disappeared more or less promptly in all instances.

Patients Subjected to Repeated Catheterization.—Greatest interest centers in 269 patients who were catheterized many times. Residual urine was discovered in 64 per cent. The actual incidence of residual urine was greater than represented by this figure because 10 per cent. of this group were not subjected to the residual urine test.

Return of the power of complete evacuation of the bladder usually required at least four days, and seldom longer than eight days. The amount of residual urine almost always decreased stepwise from day to day. Slight vesical symptoms and moderate numbers of pus cells were commonly encountered for a few days, followed by a return to normal.

Twelve patients failed to progress favorably (Table 2). It is of interest to note that nine of these were not cared for in accordance with our plan of management; residual urine tests were entirely omitted, or were discontinued before the patients acquired the power of complete evacuation. Subsequent care resulted in ultimate recovery of all of these nine.

Three patients, given approved care, reacted unfavorably. One, operated on for relief of cystocele, was catheterized five times for retention. Residual urine thereafter decreased from 4 ounces (120 c. c.) to normal within five days. Much vesical distress led to another residual urine test one week later, with the result that 3 ounces (90 c. c.) were obtained; normal function again returned in three days. There was an associated infection with pyuria, which disappeared after two weeks. A second patient, subjected to vaginal hysterectomy and transposition operation, showed residual urine for six days subsequent to several catheterizations for retention. Vesical irritation led to another residual test two weeks later, at which time 3 ounces was obtained. Pus remained constantly present, and symptoms of pyelitis developed. Recovery occurred after an interval of many weeks. The third patient, operated on for prolapse and cystocele, gave a history but no evidence of preoperative urinary tract infection. The course in this patient was similar to that in the two preceding: repeated catherizations, and gradual disappearance of residual urine, followed by evidence of residual urine when subsequently tested because of vesical distress. Many months passed before relief was obtained. It is possible that slight infection still persists.

Should Catheterization be Avoided in all Cases?—Besley[3] believes that the catheter should never be resorted to for relief of retained urine. This plan worked well in military service in cases in which there was spinal cord injury; the patients suffered little pain, and serious infection was avoided. Clinical evidence led Besley to assert that kidney function is not disturbed as a result of allowing the bladder to become distended and overflow.

Cumming,[4] after study of twenty-nine cases in which there was spinal injury, advocated avoidance of catheterization as far as possible. He believes that urine left in the bladder causes little back-pressure injury of the kidney, yet admits a certain amount of permanent renal fibrosis. Of his series of twenty-nine patients, ten had infection of the urinary tract; two were operated on for kidney infection.

TABLE 2.—*Detail of All Patients (Twelve) Who Developed Notable Evidence of Urinary Tract Infection After Operation*

	Case Number	Catheterizations for Distention	Residual Urine Tests	Duration of Infection
Treatment faulty	101	8	None	Two months
	972	11	None	Three months
	201	8	None	Many weeks
	231	14	None	A few weeks
	241	3	None	A few weeks
	441	7	None	A few weeks
	633	3	None	Pyelitis; one month
	128	3	Four; discontinued with residual of 1½ ounces	One month
	641	3	Five; discontinued with residual of 4 ounces	Seen once four months later; vesical irritation; pus cells scattered
Treatment approved	553	5	Sixth test showed no residual; test one week later revealed 3 ounces	Probably pyelitis; fever, much pus, many bacteria; recovery complete in two weeks
	561	23	Sixth test no residual; thirteen days later test showed 3 ounces	Later fever, much pus, many bacteria; prompt permanent recovery
	686	5	Seventh test no residual; many ounces residual when tested after leaving hospital	Preoperative infection? Many months +

We must realize that catheterization of these spinal injury patients, when once begun, must be continued indefinitely; the trouble is not a temporary one with rapid return of normal function such as occurs after pelvic operations. Moreover, distention of the paralyzed bladder causes little distress, and the catheter is therefore not required for physical comfort.

In civil practice we encounter conditions less favorable to this plan. Patients suffer intensely with bladder

3. Besley, F. A.: A Plea for the Noncatheterization of the Urinary Bladder in Cases of Gunshot Wounds of the Spinal Column, J. A. M. A. **69**: 638 (Aug. 25) 1917.

4. Cumming, R. E.: Shell Fracture of the Spine and Changes in Kidney and Bladder Function, J. A. M. A. **78**: 335 (Feb. 4) 1922.

distention; this is notably true of women after pelvic operations. Also, from the point of view of subsequent distress which may follow vesical distention I am led to mention the case of a college team-mate, without history of venereal disease, who found himself under circumstances that induced him to withhold the urine for a great many hours. Even many years thereafter he suffered great discomfort whenever the bladder became moderately full.

Animal Experiments.—For the purpose of testing the harmfulness of retained urine, the bladders of twenty-two male rabbits were paralyzed by cutting the spinal cord. There resulted retention of urine analogous to that which occurs in soldiers consequent to gunshot injuries of the spine.

Vesical distention developed in all except one rabbit, which died at an early date. Infection was present in twelve of the twenty-two cases. Distention of the ureters was common. Nephritis, clumps of cellular infiltration in both cortex and medulla, and intense congestion with more or less hemorrhage of the kidneys, were frequent. Nine presented marked dilatation of the kidney tubules; of these, six cases revealed extensive destruction of kidney substance.

These experiments on animals indicate that failure to relieve the distended bladder is responsible for back-pressure destruction of kidney tissue, with more or less associated infection. The incidence of infection, it will be noted, is approximately that which occurred in Cumming's series of soldiers. I have little doubt that the "certain amount of renal fibrosis" which Cumming found clinically would have been expressed as "considerable destruction of kidney tissue" had he been given opportunity to make thorough anatomic examinations similar to those I was able to obtain in experimental animals.

PYELITIS OF PREGNANCY

Exclusive of those patients who give history of previous infection, it would appear that a frequent, if not the most frequent, cause of pyelitis of pregnancy is ascending infection from residual vesical urine. Many pyelitis patients give a history of having previously accustomed themselves to resist the demands of nature until they have developed the habit of voiding not more than once during every eight or ten hours. Others mention inability completely to empty the bladder after the onset of pregnancy; evacuation of a generous amount of urine may be followed by passage of several additional ounces a few minutes later. Such difficulty may be present during the early months of pregnancy and then disappear, but more often occurs after the uterus rises out of the pelvis. When pyelitis is fully developed and the damage has already been done, residual urine may have disappeared; but many of these patients continue to yield a considerable residue on passage of the catheter immediately after urination.

Again, it is of interest to note how often cystocele with retention is present in patients with pyelitis of pregnancy. Temporary cystocele may occur in a bladder that functions normally at other times, but succumbs to the added distortion and downward pressure of the enlarged uterus.

Although it may be venturesome to discredit years of experience which attribute pyelitis to pressure of the pregnant uterus on the ureter, it is strange, if this occurs, that fibroids seem never to have similar action. We must remember, also, that the ureter is tough and elastic. Moreover, passage of the ureteral catheter to the kidney reveals no obstruction in these cases. Theoretically, ascending infection from stagnant vesical urine would appear a more important etiologic factor than pressure on the ureter; this statement is not intended to minimize the possible importance of displacement of the kidney or kinking of the ureter near the kidney pelvis.

LABORATORY STUDY OF URINE

Urine from several hundreds of these patients has been examined in the fresh state, and cultures have been made aerobically and anaerobically.

After plastic operations, one must rely on the clinical symptoms or have recourse to the catheter for positive diagnosis of infection because postoperative discharge invariably mingles with the voided specimens to such an extent that the laboratory study is almost valueless.

Some increase in leukocytes is usual if there has been more than one catheterization. In fact, enough to warrant the diagnosis of pus is not uncommon.

Urine smears from once catheterized patients reveal scattered staphylococci and diphtheroid bacilli, with occasional clumps of small, gram-negative, vaginal bacilli. Cultures correspond.

Bacteriologic study of fresh specimens from repeatedly catheterized patients most often reveals motile bacilli of the colon type. Cultures contain some staphylococci and diphtheroid bacilli, with varying numbers of colonies of bacilli of the colon group roughly proportionate to the number of leukocytes present in the fresh specimen. Anaerobic growth, aside from occasional anaerobic streptococci, is not noteworthy.

Those patients with residual urine give the greatest number of leukocytes and bacteria. Immediately on the disappearance of residual urine, there is a gradual return to normal.

If patients are unable to void at all for many days, it has been noted that leukocytes and bacteria are more numerous in specimens from those catheterized infrequently than in those from patients whose bladders are emptied three times daily.

SUMMARY

A study devoted to postoperative care of the urinary bladder, with especial consideration of the part played by residual urine, has been made throughout the period of convalescence of 1,595 female patients subjected to serious operations.

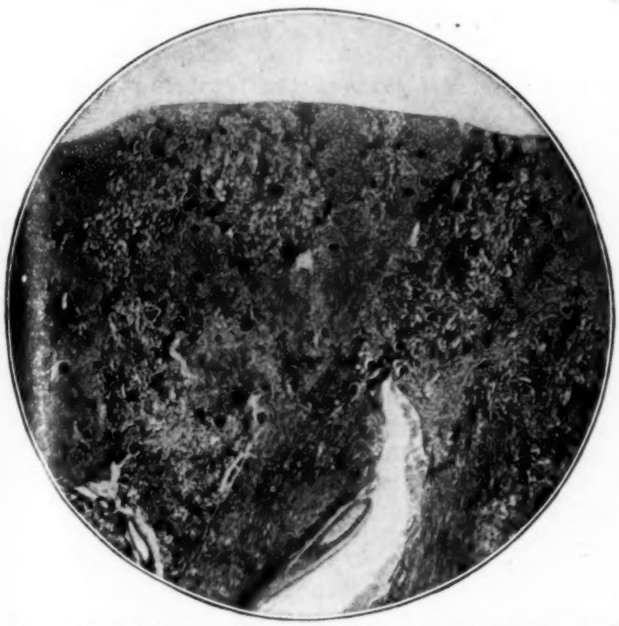
Use of the catheter has been avoided when possible, but no patient has been allowed to suffer from distention.

Residual urine has been present after the return of spontaneous micturition in more than 64 per cent. of all repeatedly catheterized patients. The most important principle in our treatment of such cases has been the daily passage of a catheter, immediately after urination, until residual urine is no longer present. Only three of those who were catheterized daily until the return of normal function developed urinary tract infection. These three subsequently showed residual urine after they were thought to have returned to normal, and it is believed that lack of treatment during this time accounts for the infection.

Laboratory study of urine from patients subjected to postoperative catheterization reveals that there may be temporary cystitis. This invariably—and usually very promptly—disappears if freedom from residual urine is maintained. Instillation of ⅛ per cent. silver nitrate and administration of urinary antiseptics by mouth are helpful adjuncts in the treatment.

Strict avoidance of the catheter after all operations, despite distress, would perhaps reveal equal freedom from infection; but this plan cannot be followed without much suffering to many patients. Moreover, animal experimentation indicates that if bladders are allowed to distend and overflow, considerable back-pressure destruction of kidney tissue results.

Clinical evidence indicates that residual urine occurs very often in pregnant women. The notable frequency



Destruction of kidney tissue in a rabbit, due to back-pressure of residual urine accumulated in a paralyzed bladder; slightly reduced from a photomicrograph with a magnification of 16 diameters.

with which it is present in those with pyelitis of pregnancy suggests that ascending infection from this source is of considerable importance.

CONCLUSIONS

1. Strict avoidance of the catheter after operation is not advocated. It is objectionable because many patients suffer intense pain from retention of urine, and because animal experimentation reveals that failure to relieve the distended bladder is accompanied by back-pressure destruction of kidney tissue.

2. After operation, patients who do not require catheterization for relief of distention quickly return to normal without urinary tract infection, even though some residual urine is present in more than 1 per cent. of such cases.

3. Patients who suffer from postoperative distention of the urinary bladder may be repeatedly catheterized without fear of infection, provided they are thereafter subjected to a daily test for residual urine until it is no longer present.

4. It is dangerous to cease abruptly the use of the catheter with the advent of spontaneous micturition, because there is usually a period of several days during which some urine is retained. Contamination of this residual urine is the chief cause of postoperative cystitis.

5. Watchfulness for residual urine in all pregnant women who show undue frequency, or who reveal pus in the urine, is an important precaution against pyelitis of pregnancy.

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PULMONARY FIBROSIS

REPORT OF CASE *

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History.—A white woman, aged 52, widow, housewife, complained of blood-spitting, which began fifteen years before, and had continued at intervals of from one week to one month. The quantity of blood had varied from a teaspoonful to a cupful. The family history was unimportant. The father died at 55 of heart disease, the mother at 40 of pneumonia. Twice in early life there had been presumably an iritis of the left eye. The patient had had three children and two miscarriages. The menopause was passed at 48 years of age; the menstrual history before and since that time was entirely normal.

In May, 1918, symptoms simulating a pleurisy developed at the base of the right chest. There was fever and severe pain (the characteristic stitch in the side), made worse on deep breathing. There was neither cough nor expectoration. The physical signs were those of a moderate-sized effusion in the right chest, but no fluid was obtained after several attempts at paracentesis. The pain continued for several weeks. At no time was there cough or expectoration, nor was the patient's general health affected by the illness. Three months later a roentgenogram of the chest showed a consolidation of the base of the right lung (Fig. 1). Following this acute illness, the hemoptysis has continued, but the patient's health has remained fairly good, and she has actually gained some weight. There has been no cough or sputum, and no recurrence of the fever.

Physical Examination.—This patient consulted me for the first time, May 9, 1918, solely for the relief of blood-spitting. Her general appearance was good; she was well developed and well nourished; there was absence of dyspnea, cough and sputum; her weight was 150 pounds (68 kg.); height, 5 feet 4 inches (162.5 cm.); pulse, regular, and 100 to the minute; temperature, 98.8. The appetite was good. The

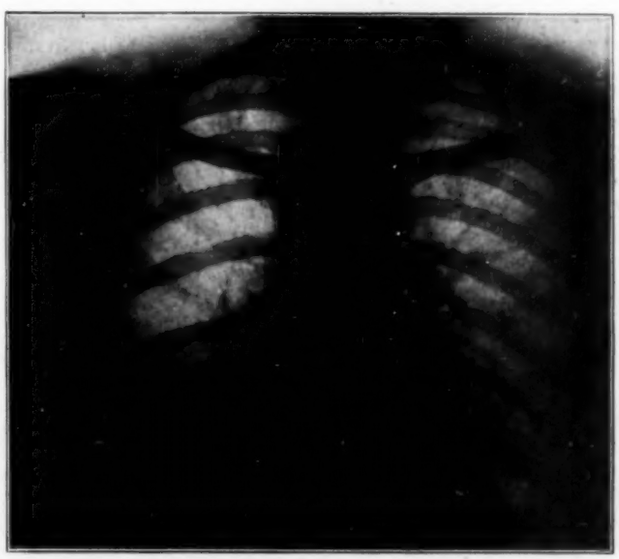

Fig. 1.—Chest three months after beginning of illness; fibrosis commencing at base of right lung, with left lung clear.

bowels were regular. She was not troubled with nausea, vomiting, gas, heartburn, pain or discombort after meals. She slept poorly. She often micturated too frequently, but did not have to rise at night.

The apex beat was in its normal position; no friction sound or thrill could be felt over the precordium; the heart did not seem to be enlarged to the left; the heart sounds were clear

* Read before the Southern Interurban Clinical Club, New Orleans, Jan. 12, 1923.

throughout; the blood pressure was: systolic, 180; diastolic, 120. Inspection of the chest showed an almost complete absence of expansion of the right side; there was no enlargement of the superficial veins of the neck, chest or arms; there was no evidence of retraction of the ribs or interspaces; inspection of the vertebral column in the thoracic region showed a compensatory curve toward the right side. There was a total absence of vocal fremitus and resonance over the greater part of the right chest. The right lung was flat to percussion from the clavicle to the base. A few very faint

Fig. 2.—Chest four years after beginning of illness: extension of fibrosis involving entire right lung, with left lung clear.

and distant breath sounds could be heard only above the clavicle; no adventitious sounds were heard. The left lung was absolutely normal to inspection, palpation, percussion and auscultation. Puncture of the right pleural cavity with a large needle, in four different locations, failed to locate any effusion. The abdomen was slightly distended, but soft; no masses could be felt; there were no points of tenderness; the spleen could not be palpated; the skin of the abdomen, front and back, showed no effort at collateral circulation in the form of enlarged veins. The joints were normal. There was no edema of the body or limbs. The throat was normal; the paranasal sinuses were clear; the teeth showed pyorrhea, and caries in three molars; roentgen-ray examination showed abscesses at the roots of these teeth; the superficial lymph glands could not be palpated; the reflexes were active; the pupils were equal in size, regular in shape, and reacted normally to light and accommodation.

Examination of the blood revealed: hemoglobin, 85 (Dare); erythrocytes, 4,240,000; leukocytes, 7,200; differential count: polymorphonuclear neutrophils, 57 per cent.; transitionals, 2 per cent.; lymphocytes, 31 per cent.; large mononuclears, 2 per cent.; eosinophils, 6 per cent.; mast cells, 1 per cent. The Wassermann reaction of the blood serum was negative; the spinal fluid showed a negative Wassermann reaction, a cell count of 3 cells per cubic millimeter, a normal globulin content, and no sugar. The urine had a specific gravity of 1.024, was acid in reaction, showed a faint trace of albumin, no sugar, and microscopically, a few pus cells and an occasional hyaline cast. The stomach contents after a Mayo test meal showed a total acidity of 52, with free hydrochloric acid of 40; there was no occult blood, and no lactic or other organic acids.

Roentgen-ray examination of the chest (Fig. 2), by means of the fluoroscope and plates, showed the heart and aorta normal, the left lung entirely normal. The right lung, except for its extreme tip above the clavicle, was entirely airless. The consolidation of the lung was especially dense at the base, the process having apparently begun there, and extended upward. The thoracic spine showed a compensatory curve toward the affected side. In the absence of symptoms referable to the gastro-intestinal tract, it was not deemed necessary to make a roentgen-ray study.

COMMENT

The physical signs and the roentgen-ray evidence were in striking contrast to the woman's excellent appearance and physical condition. She came for advice solely on account of the blood-spitting, and aside from slight dyspnea, there was little discomfort. She was emphatic in her statement that she had had no fever or cough, and that she had raised no sputum except at the times of the pulmonary bleeding. The hemoptysis had no regular sequence, nor was it affected by the habits or conduct of the patient.

We have absolute evidence, as shown by the roentgen-ray examination, that this process has been present at least four and one-half years. This fact, considered in connection with the patient's uniformly good health, makes the diagnosis of a primary or secondary malignancy of the lung or pleura extremely doubtful. A review of the literature concerning the duration of life in cancer of the lung reveals some interesting statistics of the estimates made by Osler, Walsh, Lindsay and Lord, whose estimates were from six to eight months, from eight to ten months, from six months to one year, and from six months to two years, respectively. It seems that the time limit would surely rule out the most slowly growing sarcoma or carcinoma, and there would certainly be some evidence of cachexia during this length of time. The almost certain absence of any primary carcinoma in the breast, or gastro-intestinal tract, would exclude the possibility of a metastasis to the lung with the development of a secondary carcinoma. Then, too, it would be most unusual for a metastasis to be unilateral; in my experience, in 100 per cent. of the cases it has been bilateral.

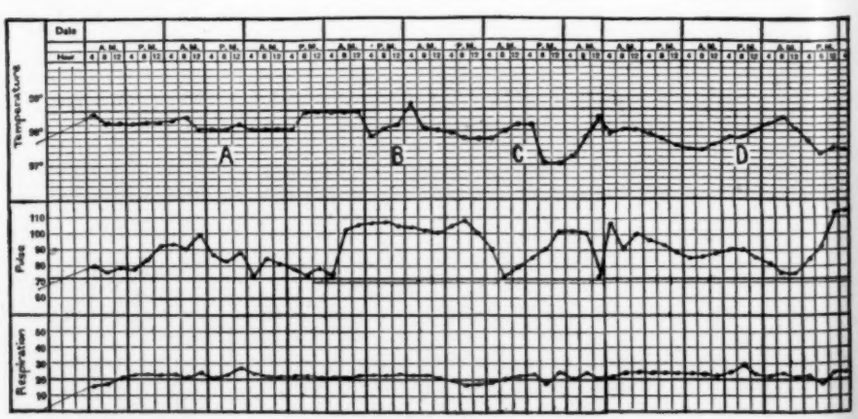

Fig. 3.—Temperature, pulse and respiration: normal curves during application of tuberculin test: *A*, 0.1 mg. of old tuberculin; *B*, 1 mg.; *C*, 5 mg.; *D*, 10 mg.

If malignancy does play any part in this case, it must be primary. Although it is possible for a primary carcinoma to begin at any point in the lung or pleura, it most often develops at the root of the lung, and finally

involves the whole lung. Usually there is a marked displacement of the heart and mediastinal tissue to the other side; and in from 12 to 14 per cent. of the cases there is an early formation of fluid, in many cases bloody, in the pleural cavity. Dyspnea is always a prominent symptom, and is progressive. Cough, fever and pain occur in most cases. Attention must also be called to the great frequency of enlargement of the superficial lymph glands. Considering the absence of these symptoms, together with the duration of life in cancer of the lung, it is most unlikely that it has anything to do with the cause of the physical signs in this case; hence it is dismissed without further consideration.

At this point reference should be made to benign tumors of the lung, and the possibility of the pathologic condition here described being due to a tumor of this character. Benign tumors of the lung occur with great rarity—cases of fibromas, teratomas and osteomas, and dermoid and hydatid cysts of the lung are reported, but much less frequently than malignant tumors. The chief characteristics of benign tumors are that they occur at the root or apex of the lung, are usually unilateral, are moderate in size, and they have clear and well-defined edges.

The previous history of this patient shows that she had several attacks of iritis, and two miscarriages. These symptoms being suggestive of syphilis, suspicion was immediately directed toward this disease. It is entirely possible for a tertiary syphilis to produce in the lungs pathologic changes and physical signs similar to those here described. These lesions are usually situated in the middle and lower parts of the lung, rarely involving the apex; it is possible for the process to become so extensive as to involve the entire lung. As a rule, both lungs are involved, as in tuberculosis. Early in the course of pulmonary syphilis, moderate-sized bronchiectases occur. The symptoms of pulmonary syphilis so closely resemble those of pulmonary tuberculosis that it is always necessary to be sure that the sputum does not contain tubercle bacilli. Cough, fever and sputum (as voluminous in character as in bronchiectasis) are present. While hemoptysis does occur, it is not so frequent as in tuberculosis. The history of syphilis, signs of the disease elsewhere—in the skin, glands, bones, throat, pupils and reflexes—a positive Wassermann reaction on the blood serum or spinal fluid, and finally (a most important feature in the diagnosis), marked improvement or active cure of the symptoms and physical signs under antisyphilitic treatment—all of these must be considered in making a diagnosis of pulmonary syphilis.

Referring back to the symptoms and physical examination of this patient, we note that there has never been cough, fever or expectoration commonly present in syphilis of the lungs. Despite the absence of these symptoms, or evidence of syphilis elsewhere in this patient, and the repeated negative Wassermann reactions on the blood serum and the spinal fluid, because of the suspicious previous history of iritis, etc., the patient was put on antisyphilitic treatment for a period of four months. During this time, saturated solution of potassium iodid was carried up to 100 drops three times a day, and mercury by inunctions and by mouth were continued several times to salivation.

This intensive treatment had no effect on the physical signs, the symptoms or the roentgen-ray appearance of the chest. Obviously, syphilis could not play a part in this case. The patient herself has always believed that she has pulmonary tuberculosis, because of the hemorrhages; at the same time, she was not wholly convinced, because she did not cough, expectorate or have fever. During the many years in which hemorrhages have occurred, there has been no loss of flesh, or any other constitutional effects that accompany pulmonary tuberculosis. In view of the very good physical condition of persons with fibroid phthisis, and the fact that cough is not so prominent as in ordinary types of tuberculosis, and that sputum is hard to obtain, every effort was made to collect a specimen for examination. Except for short intervals after the hemorrhages, none was ever obtainable; this was blood-streaked, but ten examinations have been made, and careful search for tubercle bacilli, spirochetes and other commoner organisms has failed to show them.

The physical signs in this case are entirely in keeping with those of fibroid tuberculosis, but it is difficult to believe that such a process could have so long been present without, at some time, manifesting itself in constitutional symptoms or, at least, an elevation of temperature.

On account of the chronicity of the hemoptysis, an opportune time for carrying out the subcutaneous

Fig. 4.—Chest after intensive antisyphilitic treatment and roentgen-ray treatment: no change in extensive fibrosis of right lung; left lung clear.

tuberculin test did not present itself until a few weeks ago. One week after a hemorrhage, the patient was put to bed for forty-eight hours; the temperature, the pulse and the respiratory rate were recorded at intervals of three hours; old tuberculin, freshly made up, was injected subcutaneously; in the beginning the dosage was 0.1 mg.; observations of the pulse and temperature were continued with special care after each injection (Fig. 3). The dosage was increased at the proper intervals until the final dose of 10 mg. was given without any sort of reaction, local, focal or constitutional.

If this case were really a fibroid tuberculosis produced by a tubercle bacillus of low virulence, with pathology of slow development, characterized by an unusual production of fibroid tissue, causing an almost pure sclerosis, with considerable thickening of the pleura, it is impossible to explain the negative reaction to 10 mg. of old tuberculin. Ordinarily, it is not necessary to resort to subcutaneous tuberculin tests in chronic cases of pulmonary tuberculosis, and in this case it seems that there should have been a marked reaction with one-half this final dose. The possibility of the condition being tuberculosis, in the face of these facts, is most unlikely.

Diffuse fibrosis, sclerosis or cirrhosis of the lungs developing as a sequel to bronchopneumonia or lobar pneumonia or pleurisy occurs with sufficient frequency to warrant consideration. In this case there was unquestionably a process, beginning most likely in the pleura, preceding the massive fibrosis. We have here some unknown, low-grade infective process which has spread from the pleura to the interstitial tissue, finally involving practically all of the parenchyma of the lung. It is not syphilitic or tuberculous, nor has it any evidences of malignancy.

Because of the peculiar physical signs, the flat note before percussion, the absence of breath-sounds, fremitus and resonance, the process must be quite extensive in the periphery and pleura. The hemoptysis, which is such a prominent symptom, is fully in keeping with the other cases of lung cirrhosis that have been reported.

There are two explanations: There is either an erosion of the blood vessels lining the walls, or traversing the lumen of the pulmonary cavities (brought about by bronchiectases), or there is a rupture of the varices in the bronchial wall. The latter explanation is probably correct, because there is no symptom or physical sign of bronchiectasis.

On account of the failure of medical measures in this case, roentgen-ray treatment according to the new deep therapy, for three hours in all, with a voltage of 200,000, was instituted. One month after treatment, the roentgenogram shows absolutely no change in the appearance of the lung (Fig. 4). However, there has been no recurrence of the bleeding for the last six weeks, and the patient has suffered no ill effects from the treatment. Should the hemorrhages recur, I shall be tempted to try roentgen-ray treatment again.

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CHRONIC PURPURIC ERUPTION WITHOUT DEMONSTRABLE BLOOD CHANGES

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Much has been done in recent years to clarify our views regarding that interesting and rather unusual group of conditions formerly known as purpura. Hemophilia, scurvy and other diseases displaying a tendency to hemorrhage have been weeded out of the group; the coagulation phenomena have been the subject of much careful study, and yet purpura remains an ill-defined borderline condition between internal medicine and dermatology, about which considerable confusion still exists. The case here reported represents a rare if not unique disease, but is presented not so much on this account as because it throws some interesting sidelights on purpura as a whole.

REPORT OF CASE

History.—Mrs. K., a schoolteacher, aged 25, of Irish and Scotch ancestry, seen Oct. 30, 1922, complained chiefly of spots on the skin and burning of the lower extremities. There was no history of any similar condition or undue tendency toward bleeding, on either side of the family. The patient had been a perfectly normal girl until eight years previously, when, for no apparent cause except an unusually cold winter, she noticed some small purplish spots on the skin just above the shoe tops. Gradually, these spots spread, involving almost the entire body. They came out more profusely when the weather was cold or when the patient was excited, and during menstruation, which was scanty. The legs had always been affected more severely than other parts of the body, and in recent years a disagreeable burning sensation had developed in the lower extremities together with a thickening of the skin. "Alpine light treatment" had been administered by her physician, with some benefit. In the course of the exposures, she was burned several times with resultant blisters, which, she says, were of the usual character, and not hemorrhagic. At Christmas dinner in 1917, she ate heartily of turkey and other dishes, following which she became "swollen all over," and a great many fresh spots developed. She had never had any repetition of this attack, nor had she shown any other symptoms suggestive of allergy except that, when she scratched the skin, a white weltlike streak appeared. She used no drugs, always enjoyed excellent health, and gave no symptoms of any other nervous or organic disease.

Fig. 1.—Left lower extremity: The conspicuous markings of the thigh were dark red, and the ones on the leg, brown.

Examination.—Except for the skin lesions, which will be described later, the patient appeared to be a normal, robust young woman. The gums were red and slightly spongy, and bled easily, but her dentist stated that this was due to gingivitis. The thyroid was a trifle larger than the average, but there were no evidences of hyperthyroidism present, and the basal metabolism, as determined by Dr. Leon Jonas, was within normal limits. The blood pressure varied on two occasions between 98 and 106 systolic, the diastolic being 76. The venous pressure on the back of the hand as determined by the use of the capsule of Hooker was 10 cm. (water). Examination of the heart and lungs revealed nothing abnormal. No abdominal organs were palpable, though numerous attempts were made to palpate the liver and spleen. The reflexes generally were a little exaggerated; otherwise, the neurologic examination was negative. The ophthalmoscope did not reveal any fundus changes. The urine was normal in every respect and did not contain any red cells. On a meat-free diet, the feces gave a negative benzidin reaction for occult blood. Two blood Wassermann tests made at different times were negative. The blood urea nitrogen was 10 mg. per hundred cubic centimeters, and the blood sugar 0.098 per cent. Skin tests of forty-one common proteins, including turkey, were made by Dr. Richard Kern, with negative results. The skin capillaries of the dorsum of the finger adjacent to the cuticle were examined by the Lombard method, without revealing any unusual features.

The red blood cells numbered 4,150,000, with hemoglobin 89 per cent.; white blood cells, 5,400, with neutrophils, 60 per cent.; lymphocytes, 34; large mononuclear cells, 1; transitionals, 2; eosinophils, 2, and basophils, 1 per cent. The blood platelets were estimated on three different occasions, once when the weather was cold, and a fresh crop of spots was

appearing; once while the patient was menstruating, and once at a time when she was relatively free from fresh skin lesions. The counts varied between 286,400 and 257,000. A blood pressure cuff constricting the arm at a pressure slightly below 70 mm. of mercury in five minutes produced twenty-two new skin lesions in an area of 28 sq.cm. Fresh petechiae could also be produced by rubbing the skin of the arm. Forcible rubbing led to an exudation of clear serum. The area thus rubbed remained purplish for two months, and fresh lesions developed here more frequently than before. The bleeding time determined on both the ear and the finger was five minutes. Nothing abnormal was found in regard to the coagulation time, the amount of serum which separated or the character of the clot.

Description of Skin Changes.—The lower extremities were the most severely affected (Fig. 1), the lesions extending well upward over the hips and inguinal regions, and over the upper extremities upward almost to the shoulders. Save for a few scattered, freckle-like macules on the face and abdomen, the other parts of the body were free. Stroking the skin of the back resulted in the production of a red streak, with but the faintest trace of wheal development. Rectal and vaginal examination, by Dr. Charles A. Behney, failed to reveal any lesions, and, with the exception of a minute petechia on the upper lip, the other mucous membranes were free. The freshest lesions consisted of bright, non-elevated, red points not larger than a pinhead. The color could not be discharged by pressure. Examination under the lens showed that many were not merely punctate, but consisted of several minute, red points which were sometimes arranged in more or less wavy lines. This kind of lesion was sometimes isolated at the uppermost margins of the disease area, surrounded by normal skin, and sometimes superimposed on the older process farther down. The further change in such a lesion was evidenced by the freckle-like macules, which were recognized in their purest form in the more recently affected areas, and had coalesced farther down to produce a mottled or diffuse brown discoloration. The skin of the legs was definitely thickened, and there was also a little scaliness here. There was not a semblance of follicular involvement, achromia, atrophy or arrangement in rings or gyrate forms.

Histologic Examination.[1]—A fresh, bright red lesion at the uppermost border of the affected area of the arm was excised under local anesthesia, and sectioned and examined. Histologic changes were restricted to the corium, more particularly the subpapillary portions (Fig. 2). They were essentially those of an early acute inflammation, and were restricted to areas around the capillaries and arterioles. The acuteness of the process was evidenced by swelling and hyperplasia of the perivascular fibrous tissue and of the lining endothelial cells of the capillaries, and particularly by a definite infiltration of polymorphonuclears in addition to the lymphoid cells that were to be expected. Fibrin was not associated, nor was there demonstrable edema. Blood vessels were dilated, and some of the capillaries were thrombotic, with destruction of the endothelial walls, i. e., the process amounted to a thrombo-capillaritis obliterans. Extravasations of red blood cells were scarce, and no micro-organisms were demonstrable by special stains (Giemsa, thionin).

COMMENT

From the standpoint of the hematologist, it is interesting to note that a positive tourniquet test for capillary permeability was present in this instance without a reduction of the blood platelets. From these tests alone, capillary disease should have been suspected; for a positive tourniquet test may be taken to indicate diminution of the platelets of the blood or vascular disease, or both. Since the former was absent, vascular disease should be present. That the histologic examination bore out what was previously predicted from the results of these two simple tests emphasizes the diagnostic importance of the platelet count and the tourniquet test in hemorrhagic conditions.

Another point of interest comes up in regard to the causative agent of the disease. The general well-being of the patient and the normal physical findings indicate the absence of generalized vascular disease; yet histologic examination disclosed definite acute inflammatory changes in the skin. These facts argue for the highly selective action of the causative agent, not unlike that of snake venom and other members of the group of endothelial toxins.

From the standpoint of diagnosis, our case most nearly resembled those described by Weiss,[2] and diagnosed by him as purpura annularis telangiectodes (Majocchi's disease). Ours departed somewhat from Weiss's cases in that the lesions showed no tendency to form into groups or patches, and in that, histologically, no edema within the corium, fragmentation of elastic fibers or thinning of the epidermis was present. Our case diverged even more from Majocchi's original descriptions, for none of the lesions were follicular or annular, nor was achromia present. The lesions did not occur in patches, but diffusely, and produced indura-

Fig. 2.—Acute telangiitis: Cross-section showing swollen capillary extending upward in one of the papillae, shown at top. The lining endothelial cells are swollen and hyperplastic, and some polymorphonuclears (*P*) are intermixed with the lymphocytes and swollen spindle cells which surround the capillary.

1. Histologic sections from this and one of Weiss' cases are filed at the Army Medical Museum, Washington, D. C. Filing diagnosis was: purpura, chronic.

2. Weiss, L.: Purpura Annularis Telangiectodes (Majocchi's Disease), Arch. Dermat. & Syph. **38**: 520 (May) 1920.

tion of the skin. Chronic idiopathic simple purpura also has points of resemblance, but permanent skin changes occur rarely in this disease.

If we were to follow the existing terminology, we might designate this condition as purpura telangiitosa, since it is a disease manifesting a purpuric eruption and having an inflammatory process of the capillaries as its chief pathologic finding; but as the subject of purpura is at present by no means free from confusion, the addition of another purpura to the already extensive list seems hardly calculated to clarify the situation. Moreover, in such heterogeneous groups as purpura, the tendency is to remove from the group those diseases which have a known cause or established pathology. Thus scurvy, hemophilia, pernicious anemia, nephritis, leukemia and other diseases attended with purpura are no longer called purpura. It is safe to predict that, as our knowledge of the cause and the pathology of hemorrhagic conditions increases, the double significance of the term purpura, which has heretofore been a source of confusion and a cloak for ignorance, will cease to exist. It is to be hoped that purpura will eventually come to indicate merely a symptom of this or that disease. "Idiopathic platelet deficiency" will very possibly supplant the time-honored but meaningless "purpura hemorrhagica," until, in turn, the cause of the platelet deficiency is discovered, when the "idiopathic" may be likewise dropped. Viewed in this light, our case falls into the group of primary inflammatory vascular diseases with purpura, the cause of the disease being as yet undetermined.

SUMMARY

In the case reported, the principal findings were long-standing cutaneous hemorrhages, a positive tourniquet test for capillary permeability, and a normal platelet count; while histologic sections of the skin showed acute telangiitis. The first three are sufficient to indicate the telangiitis which the latter proved. In the absence of general vascular disease, these changes pointed to the highly selective nature of the causative agent. The suggested diagnosis is: primary telangiitis with purpura.

Natural Selection and Survival of Fittest.—By a study of the age of onset of insanity of parents and offspring in more than 4,000 relatives who are at present or have been in the London asylums, a signal tendency of the offspring of insane parents to develop signs of insanity in adolescence was noted by W. F. Mott (*Brit. M. J.* **1**:407 [March 10] 1923). The average age of the parents is about seventeen years more than that of the offspring. This accords with Darwin's law of antedating or anticipation. Those individuals who suffered with dementia in adolescence would have little chance of surviving the struggle for existence among primitive people and savages. Among civilized people insanity leads to segregation, and thus prevents propagation. The regressive atrophy of the testes in males would also interfere with propagation. Again, females predisposed by hereditary tendency break down in adolescence under the stress of normal physiologic conditions, such as pregnancy, parturition, or lactation. These cases of so-called puerperal mania often terminate in dementia, and we find in them a regressive atrophy of the ovaries. Only about 10 per cent. of the primary female dementia patients in asylums are married women, and very few of these have had more than one or two children. It it were not for this natural process of preservation from breeding of such unsound members of a stock by bringing the disease on at an earlier age and in an incurable form, racial degeneracy and extinction would be inevitable in a civilization in which altruistic sentiment has interfered with the struggle for existence and survival of the mentally and physically fittest.

ASTHENOPIC REFLEX MANIFESTATIONS BETWEEN THE EYES AND TEETH *

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DETROIT

Relief of eye strain and its manifestations through refraction is made impossible by diseases of the nose and its sinuses, and of the pharynx and, rarely, by more remote diseased organs. These diseases influence reflexly the functions of the eye. Such sources of malfunction, when unsuspected, keep the oculist uselessly trying for years to cure the asthenopia until, finally, the cause of these reflexes is discovered.

REPORT OF CASES

CASE 1.—Mrs. L. S., aged 44, was seen by me in 1916, because of eye trouble. She presented all the classical symptoms of eye strain: headaches, pain in the eyes, vertigo, carsickness and asthenopia, as well as anorexia, indigestion and pollakiuria. She urinated every few minutes during the day and about twice during the night. She slept poorly, being frequently disturbed by nightmare. She had "rheumatic pains" all over the body, especially in the digital joints. She sighed and yawned excessively, had palpitation and tinnitus in both ears, and was constantly fatigued.

Glasses lessened the intensity of the symptoms, but did not eliminate them. All the symptoms were aggravated when she tried to use her eyes for close work. After many unsuccessful attempts to improve the glasses, eight months later, I administered atropin instillations for a period of five days. The rerefraction did not reveal any fault in the previous refraction. I sent the patient to a nose and throat specialist, who reported that the nose, throat and sinuses were in very good condition.

It then occurred to me that, as there was nothing else that could cause the eye strain to continue, the teeth might in some way be responsible for the reflex symptoms. There was a long upper bridge anchored to the two upper canines. There were no subjective symptoms in the teeth. Neither tapping nor hot and cold applications caused any pain. Her dentist, to whom I applied for advice, stated that the teeth were in excellent condition. My request to remove the bridge for experimental purpose was flatly refused. I then took her to another dentist who found nothing wrong with the canines. However, to please me, he drilled through the crowns and opened up the root canals. Gas of intolerable odor escaped from the openings. The two canines were removed, and the patient was supplied with a denture. She recovered promptly and completely.

This case occurred in 1916, when roentgen rays were only rarely used by dentists in their daily work. It illustrated the fact that bad teeth not only cause inflammations, ulcerations and other pathologic changes in the eyes, a fact long known and very widely discussed in the ophthalmic literature, but that they may also cause reflex eye strain symptoms without themselves giving any subjective discomfort.

After the recovery of this patient, I took up the case of another patient who had for years been the reminder of my fallibility in refraction.

CASE 2.—Mr. B. B., aged 25 years, whose eyes were refracted not less than ten times during the four years that he was under my care, did not improve. The symptoms varied rapidly, frequently appearing in entirely new combinations. On one of his last visits he said that he had no headaches except after riding 5 or 6 miles on a street car. He suffered pain in the chest, back and knees, especially the right. In order to enjoy a good sleep, he never ate later than five hours before retiring, nor did he take a walk in the evening; otherwise his sleep would be fitful and disturbed by nightmare.

* Read before the Maimonides Medical Society, Detroit, Feb. 6, 1923.

He had no pain during working hours. The appetite, digestion and bowel movements were good except after walking. Walking made him so nervous that after a short walk he was unable to read a line. He consulted a noted surgeon, who had a roentgen-ray examination made and who then referred him to an equally noted diagnostician. He was told that there was "nothing wrong" with him. He then consulted another surgeon, who referred him to an orthopedist. He suspected the presence of flatfoot and recommended arch-supporters, which, however, gave him no relief. An elastic band worn around the right knee caused pain in the foot. Any drug caused a sleepless night. In short, the patient suffered from an outspoken case of neurasthenia. I sent him to two other oculists, hoping that they would find an error in my refraction, but he refused to wear the glasses prescribed by them, asserting that they only aggravated his troubles. The nose and throat had been examined carefully, but no pathologic condition was found.

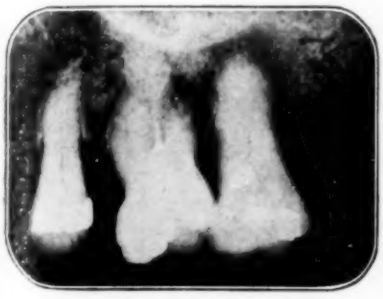

Fig. 1 (Case 4).—Pathologic area associated with the mesiodistal root of the upper left first molar.

Fig. 2 (Case 4).—Lower right second bicuspid showing almost no attempt at root canal filling and a decided haziness about the root apex.

Fig. 3 (Case 5).—Pathologic areas at the apexes of the roots.

After my experience in Case 1, I asked him about his teeth. His answer was that he had two upper molars, on the right and left, which caused pain after every effort to read. At times this was so severe that he was unable to chew his food. The dentist found apical abscesses at the root of these molars. After extraction of the two teeth, the patient fully recovered from the asthenopic and neurasthenic symptoms.

Then came in comparatively quick succession a number of cases.

CASE 3.—Mrs. M. K., aged 43, besides asthenopia, complained of violent headaches, severe vertigo, poor sleep and excessive sneezing for five years before she consulted me. I refracted her eyes, and, in the course of time, she recovered entirely, even from the attacks of sneezing.

Later she returned with a various assortment of complaints. I then advised her to have a roentgen-ray examination of the teeth and to have them properly taken care of. She did not heed my advice. Her condition improved and then became worse, causing both herself and me to be rather uncomfortable as a result of her frequent visits to my office. Finally, two and one-half years later, I decided to have nothing to do with her if she did not have her teeth attended to. She then saw her dentist, who had a roentgenographic examination made of the teeth. Two of them were found to be abscessed, and were consequently extracted.

The patient recovered immediately and today is in excellent health.

CASE 4.—Mrs. S. Y. H., aged 63, a year and a half before she consulted me, began to suffer from slight frontal headaches. She was entirely unable to endure car riding, had frequent and violent attacks of nausea and vomiting, and suffered from severe tinnitus in both ears. The hearing was good, although the right ear was slightly defective. She suffered also from constipation, increased frequency of micturition (once or twice at night), poor sleep and great fatigue. She was examined and treated in two different hospitals, roentgen-ray and refractive examinations being made, but without results. Two diagnosticians diagnosed her case as Ménière's disease. The treatment prescribed for her was liquor potassii arsenitis (Fowler's solution).

To eliminate any ocular influences, I prescribed atropin instillations for one week. The atropin stopped the vertigo, and diminished the tinnitus, but did not improve sleep. I changed the prescription of the bifocal lenses.

Two months later she reported that she no longer suffered from car-sickness, vertigo, nausea, vomiting or tinnitus. Sleep was improved, and she felt strong enough to do a great deal of her house work. She was also able to ride on a street car with perfect comfort.

Fig. 4 (Case 6).—Devitalized upper left lateral incisor, containing imperfect root canal filling.

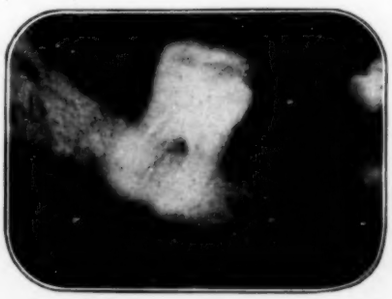

Fig. 5 (Case 7).—Lower right second molar, devitalized and with an imperfect root canal filling and an abscess associated with the mesial root.

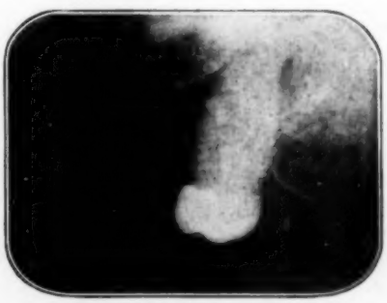

Fig. 6 (Case 8).—Extensive destruction of the upper left second molar.

A month and a half later, she complained of return of the old symptoms. I then prescribed atropin instillations for a week and a half; but they afforded little, if any, relief. Having assured myself that this time her eyes had nothing to do with the trouble, I advised that she consult her dentist concerning her teeth. The dentist reported that he was sure that there was nothing wrong with them. I then took her to a dental diagnostician, who reported thus:

"Mrs. H. was examined to ascertain the possibility of any foci of infection about the teeth. All teeth were tested with a galvanic current to determine their vitality, and all responded positively, with the exception of the upper left first

molar, the upper left central incisor, the lower left second bicuspid and the lower right second bicuspid.

"Roentgenograms were made of these nonvital teeth. The roentgenograms, in my opinion, disclose the following: The upper left central incisor, which is carrying a porcelain crown, shows no pathologic condition. The lower left second bicuspid likewise shows no pathologic condition.

"The upper left first molar (Fig. 1) shows a definite pathologic area associated with the apex of the mesiodistal root.

"The lower right second bicuspid shows practically no attempt made at root canal filling and a decided haziness about the root apex (Fig. 2).

"Conclusions and Recommendations: No interference is recommended with the upper central and lower left second bicuspid.

"The upper left first molar should be extracted; at the time of extraction, a culture might be made. At this time I would not recommend interference with the lower right second bicuspid until results have been observed in the extraction of the molar."

Her upper left molar was extracted and a culture taken. The laboratory reported thus: "The culture shows a few white staphylococci and very few slightly hemolytic streptococci."

As there was only temporary and slight improvement in the symptoms, the lower right second bicuspid was also extracted, a month later. After that the patient recovered rapidly. Today she is in perfect physical health.

CASE 5.—Miss S. F., aged 16 years, came to me for chronic blepharitis and temporal headache, both of seven years' duration. She also suffered from severe asthenopia and frequent vertiginous attacks. She wore no glasses. On refraction, she accepted very strong cross-cylinder lenses. She got along fairly well with them and was even able to work as a seamstress.

About a year later, the headaches and asthenopia returned. As instillations of homatropin did not reveal any change in the refraction, I used atropin instillations for some days. The atropin did not relieve the headaches. It also showed that the old glasses were still correct.

I sent her to a dentist, who had a roentgenogram made of her teeth. It showed that the pulp of the lower right first molar had been destroyed by invasions of dental caries. There were also pathologic areas associated with the apexes of the roots (Fig. 3).

After the extraction of the tooth, the patient recovered entirely from the headaches and asthenopia.

CASE 6.—Miss B. K., aged 15 years, had been under my care for five years. A year after the last refraction, she again complained of eye strain symptoms. I rerefracted her eyes after three days' atropinization. Since hardly any change in the glasses was necessary, it was apparent that the eye strain symptoms were not due to the need of new glasses. There were a number of fillings in the teeth. I referred her to her dentist, who had a roentgenogram made of the teeth, which showed that the upper left lateral incisor was devitalized, and contained an imperfect root filling (Fig. 4). The dentist sent the roentgenogram to me with the remark that it revealed "no marked apical disease."

In spite of this fact, he tried to cure the tooth by treatment, but without result. After the tooth was finally extracted, the patient recovered speedily.

CASE 7.—Mrs. H. F. R., aged 27, presented asthenopic symptoms for near and distant vision, temporal headaches, twitching of lids, constipation, excessive sweating of hands, tremor of hands and legs, numbness of fingers and toes and chronic blepharitis. After refraction she recovered quickly.

Ten weeks later she began to be bothered by photophobia and by the partial return of numbness and giddiness. Three weeks later all the symptoms had returned. A rerefraction gave no new findings. There was no heterophoria.

A roentgenogram was made of the lower right second molar, which was shown to be devitalized, with imperfect root fillings. Associated with the mesial root was an abscess (Fig. 5).

The patient was advised to have the tooth removed; but she decided to have her dentist try local treatment to determine whether it were not possible to save the tooth.

When the pulp chamber was opened and allowed to remain open, the eye trouble stopped, only to return when the pulp chamber was sealed again. After four weeks' treatment the tooth was extracted and all the eye symptoms ceased.

CASE 8.—Mrs. A. W., aged 46 years, came to Detroit every few years to have her eyes refracted. Lately she returned with the usual amount of eye strain symptoms. I put her on atropin instillations. Three days later, she complained that the atropin caused the headaches.

Fig. 7 (Case 8).—Pathologic areas at the apexes of the roots of the upper right first molar.

Fig. 8 (Case 8).—Extensive destruction of the supporting structures of the lower right third molar, with beginning absorption of the roots.

Fig. 9 (Case 9).—Impacted second bicuspid with extensive area of pressure necrosis.

Inspection showed a number of bad and suspicious teeth. All teeth were tested for vitality with a galvanic current; and they responded positively with the exception of the upper right first molar, the upper right second bicuspid (root) and the lower right third molar. Roentgenograms were taken of all the teeth. That of the upper left second molar showed an extensive area of destruction of the alveolar process, undoubtedly resulting from pyorrhea (Fig. 6). The roentgenogram of the upper right second bicuspid showed an area of rarefaction, at the apex. The roentgenogram of the upper right first molar showed that the canals were imperfectly filled, with the usual pathologic areas at the apexes of the roots (Fig. 7). The roentgenogram of the lower right third molar showed extensive destruction of the supporting structures surrounding the tooth. There was a beginning absorption of the roots of the tooth (Fig. 8).

The two molars were extracted, with immediate relief from headaches and the other eye strain symptoms. The refraction showed that there was no necessity for changing the glasses.

CASE 9.—Mr. C. C. H., aged 35, a prominent business man, came to me four years ago because of headaches, asthenopia for near and far vision, vertigo, indigestion, excessive sweating of the hands and body, tremor of the hands and legs, and flushing of both sides of the face, especially the left side, in connection with attacks of giddiness and blurred vision. The flushing of the face annoyed him more than the other symptoms. He also had a goiter.

He wore the glasses that I prescribed for six months and then he underwent an operation for the removal of the goiter.

Although he had no asthenopia and fewer headaches, all the other symptoms, tremor, flushing of the face, vertigo and indigestion, remained unimproved.

Two years later he returned for a reexamination. The rerefraction showed the necessity for hardly any change in his glasses. He returned again in two years. He wore the glasses that I prescribed, but without any benefit as far as his symptoms were concerned. As a matter of fact, he became worse and more nervous as time went on. He consulted a number of good physicians, who told him that he was physically perfect and that all he needed was a "mental rest." He finally broke down completely and went to a sanatorium.

A thorough examination by the sanatorium physicians failed to reveal any ailment. While resting in the sanatorium he felt considerably better, but when he returned to his business, his nervousness and his fatigue reappeared.

As a last resort, I suppose, he bethought himself of his old oculist and came to me with a request to be rerefracted. Since there were only a few asthenopic symptoms and his glasses and eyes felt rather comfortable; and since none of his physicians had found any physical defects, I concluded that there probably was some unsuspected trouble in the alveolar processes.

The patient stated that his teeth did not give him the least trouble and were perfectly sound, which was borne out by examination. Roentgenograms were made of the spaces where teeth had been extracted to rule out the possibility of remaining roots or of impactions. The roentgenogram of the left side of the lower jaw showed a second bicuspid impacted, with an extensive area of pressure necrosis (Fig. 9). The impacted tooth was removed under a general anesthetic. The patient recovered entirely. The flushing of the face disappeared. He is working again under full pressure without any ill results or undue fatigue.

REPORT OF CASES IN WHICH THE EYES AFFECTED THE TEETH

That the nerves which act as conductors in producing eye reflexes due to bad teeth may also act as agents in producing tooth and gum reflexes due to strained eyes was shown by Case 2, as well as by the four subjoined cases:

CASE 10.—Mr. J. Y., aged 26, consulted me in November, 1915, because of asthenopia, nonrefreshing sleep, indigestion and precordial pain. I refracted his eyes and ordered a pair of rather strong compound plus lenses. In a few weeks he returned and reported that whenever he put on his spectacles, they caused pain in the right eye, the pain spreading to the temple and to the teeth on the right side and also numbing the gums. A readjustment of the axis of the cylinder of the right lens speedily cured the toothache and the numbness of the gums.

CASE 11.—Mrs. W. R. D., aged 44, seen in June, 1916, suffered daily headaches most of her life, with shooting pains on the left side of the face and head. The headaches were always accompanied by toothache on the left side. Besides headaches, she had a great many other symptoms of eye strain.

After wearing the glasses prescribed for two months the patient reported only occasional slight headaches without toothache. She had consulted no dentist.

CASE 12.—Dr. L. B. C., aged 25, had suffered for many years from asthenopia due to an undiscovered cause. The refraction of his eyes had been checked so many times and with so much care that I am certain that the cause of the asthenopia was not in the eyes or in his glasses.

During his many years of eye strain, he suffered from almost all known symptoms of that condition. At one time he had toothache whenever his eyes felt bad. His teeth were roentgenographed by responsible men, and no pathologic conditions were found in the alveolar processes or in the teeth.

When the eye strain was relieved, the pain in the right or left upper molars would disappear. When he used his eyes too much, a sensation of numbness traveled down through the bridge of the nose and part of the face to the incisor teeth.

CASE 13.—Miss E. P., aged 19, stenographer, consulted me because of severe headache, asthenopia for close work and blind spells. Glasses relieved her considerably. A year later the symptoms returned. I prescribed atropin instillations for four days. She felt well while under the influence of the cycloplegic; but the new glasses failed to relieve the eye strain caused by close work. As she complained of annoying pain in the gums and teeth, I had her teeth examined by a dentist. No pathologic condition was found. The gums and teeth were in excellent condition.

After I had prescribed an additional pair of plus glasses for close work, she recovered perfectly, suffering no more pain in the gums or teeth.

LITERATURE

The literature of eye reflexes caused by bad teeth is rather meager. The first mention I found of the condition was by Schmidt-Rimpler [1] in 1868, who studied the accommodation of more than 100 toothache sufferers, in seventy-three of whom he found a decided decrease of accommodative ability. He explained it by the heightened intra-ocular pressure due to irritation of the secretory nerve apparatus, producing a condition somewhat analogous to the prodromal state of glaucoma. He also mentions different reflex motor disturbances of the eye caused by teeth.

That muscular spasms of the eye muscles can be caused by irritation of the dental ends of the trigeminus was thoroughly studied in the seventies by Terrier,[2] Métras,[3] Galezowski [4] and Schmidt-Rimpler.

It is interesting to note that Terrier described a case of deviation of the left eye of some months' standing cured by the extraction of a few carious teeth. He called the attention of his readers to the fact that they were not painful teeth: they had evidently nonvital pulps.

Then came a long silence which was finally broken in 1915 by Arthur D. Black [5] of Chicago.

In 1916, Fulkerson [6] reported a half dozen cases in which the symptoms of accommodative asthenopia were present and which were not permanently relieved until abnormal dental conditions had received proper treatment.

In 1918, Zentmayer [7] quoted Black in full, without further illustrating the occurrence of reflexes. He accepted Black's statements as authoritative.

In 1919, Murray [8] reported the case of a machinist, aged 50 who had headaches for three weeks preceding the dizziness which brought him to the oculist.

Roentgenograms made of the teeth showed three big abscesses at the apexes and one unerupted immediately beneath the abscesses. Both, unerupted tooth and abscessed teeth, were removed, and the patient's headaches and dizziness were completely and promptly relieved.

In 1920, Benedict [9] described the case of a woman, aged 22, who had spasms and twitching of the right lid which were relieved by the extraction of an impacted molar. He also described the case of a man,

1. Schmidt-Rimpler, H.: Ueber Akkomodationsbeschränkung bei Zahnleiden, Arch. f. Ophth. **14**: 107, 1868.
2. Terrier: Recueil d'opht., 1876, pp. 86-89.
3. Métras: Sehstörungen bei Zahnkrankheiten, cited by Nagel: Jahresb. f. Ophth. **4**: 217, 1873; Rapports pathologiques de l'œil et des dents par action réflexé, Thèse de Paris, 1873.
4. Galezowski: Jahresb. f. Ophth. **5**: 262, 1876.
5. Black, A. D.: Ocular Diseases Resulting from Dental Lesions, Ophth. Rec., 1915, pp. 610-622.
6. Fulkerson, C. B.: Roentgenographic Findings of Blind Dental Abscesses Causing Asthenopia, Tr. Am. Acad. Ophth., Oto-Laryngol. Sect., 1916, p. 196.
7. Zentmayer, William: Ocular Lesions the Result of Oral and Pharyngeal Diseases, Am. J. Ophth. **1**: 247 (April) 1918.
8. Murray, G. D.: Spasm of Accommodation with Disturbances of Ocular Movements of Dental Origin, Am. J. Ophth. **2**: 202 (March) 1919.
9. Benedict, W. L.: Value of Dental Examination in Treatment of Ocular Disorders, Am. J. Ophth. **3**: 860-865 (Dec.) 1920.

aged 64, in whom the left external rectus muscle was completely paralyzed. As a Wassermann and neurologic examination proved negative, a number of decayed and fractured teeth were removed. With the extraction of the last teeth the paralysis began to disappear, and entirely disappeared within three weeks.

In 1921, Sumner [10] said, "Infected teeth have usually caused a spasm, and where excessive spasm exists under drops, I inquired into the condition of the teeth."

In 1922, Deichler [11] described in detail the case histories and symptoms of two patients presenting muscular involvement of the eyes.

ETIOLOGY

The nerves that are principally involved in these reflexes are the three divisions of the trigeminal nerve, supplying in part the eye and the teeth. This common innervation makes it obvious that the irritation of one of the many branches of the trigeminal nerve may produce the most varied and unexpected reflex symptoms.

As far back as 1873, Métras divided the reflex actions of the eye caused by diseased teeth into three classes: (1) vasomotor disturbances (as nutritional and amaurotic disturbances); (2) sensibility disturbances (as nutritional and asthenopic); (3) motility disturbances (as cramps or paralysis in the extra-ocular, supra-orbital and palpebral muscles).

Black describes two groups of ocular disturbances: (1) "reflex neuroses presenting themselves as sensory, vasomotor or muscular disorders; (2) inflammations of the various tissues of the eye due to infection. The former are practically always due to irritation of a vital pulp of a tooth, although an occasional case may be due to an impacted tooth; the latter are practically always due to an infection involving the peridental membrane, either in the form of an alveolar abscess at the root apex, or a pus pocket along the side of the root."

Black's classification of the reflex neuroses is essentially the same as that of Métras. The only additional feature is his "live pulp theory," by which he tries to explain the pathologic processes bringing about the reflexes. Zentmayer repeats Black's live pulp theory.

Evidently, Black had an extensive experience with dental conditions without an equal opportunity to study eye manifestations, while Zentmayer, with his great knowledge of the eye, probably never took the trouble to study the roentgenograms of the cases he referred to the dentists.

Black took his cue from the common knowledge that toothache is frequently accompanied by reflex eye pain. From this daily experience, he deduced his theory that practically all eye reflexes are caused by irritated live pulps.

My roentgenograms show the fallacy of Black's theory. In no case did I find a live pulp; in all cases there were dead teeth with apical abscesses and diseased alveolar processes. As a matter of fact, the experience of other observers and myself reveals the existence of at least five classes of eye reflex conditions, differing in character according to the nerve fibers or nerve branches involved:

1. Nutritional and vasomotor disturbances reflexly caused by bad teeth, a class that is not dealt with in this paper.

2. Acute pain in the eyes caused by an acute irritation of the sensory fibers of the trigeminus, by an irritated live pulp, sensitive dentin or by an open cavity in the tooth.

3. Spasms or paralysis resulting from affection of the oculomotor apparatus and the supra-orbital and palpebral muscles by dead teeth and alveolar abscesses. The patients suffer no pain except from the ill effects of the incapacitated muscles.

4. Reflex eye strain caused by dead teeth or by alveolar abscesses irritating the nerves of the ciliary muscles, possibly in connection with irritation of the oculomotor nerves. The symptoms of this large class are indistinguishable from the eye strain symptoms from any other cause. The ill effects are those of the eye strain. The diagnosis can be made only by exclusion.

5. Neurasthenia caused by the irritation of the sympathetic ganglion connected with the trigeminus and the eye. In this group there are no eye reflexes except those caused by the neurasthenia. The diagnosis in this class can also be made only by exclusion. The exceptional Case 9 in which neurasthenia was produced by the irritation of the fifth nerve and the sympathetic ganglion by an impacted bicuspid belongs to this group of cases.

There may and, of course, frequently do occur cases in which a combination of the different groups of reflexes are produced by multiple irritation of the different nerve branches and nerve fibers involved in the innervation of the teeth and eyes.

The question whether all abscessed teeth ought to be removed or not has been debated for a great many years and is still debatable; but it is not debatable when headaches, vertigo, asthenopia, general fatigue, nervousness and the complex of neurasthenia incapacitate the patient and keep him continually in ill health, without the certainty being given that the infected teeth can be cured and sterilized. In such cases, there is only one answer to the question, namely, the removal of the focus of infection and restoration of the sufferers to good health in compensation for the loss of bad teeth.

CONCLUSIONS

The conclusions to be deduced from the foregoing study are:

1. The diagnosis can be made only by exclusion.
2. The teeth causing eye reflexes usually do not cause local pain and are, therefore, commonly overlooked as causative factors.
3. Toothache and numbness of the gums may be caused by eye strain as easily as eye strain may be caused by bad teeth.
4. The rationale of these phenomena is given by the common innervation.
5. There are at least four groups of reflexes manifested in the eye, of which only the least important is caused by live pulps and the three important ones by dead teeth and alveolar abscesses.
6. The irritation of the sympathetic nervous system by abnormal teeth may cause neurasthenia and possibly, in susceptible cases, even insanity.
7. The infected apexes and alveolar processes are, as a rule, not curable by local treatment, and extraction is the method of choice.

510 Fine Arts Building.

10. Sumner, Percy: Subnormal Accommodation, the Result of Focal Infection, Am. J. Ophth. 4: 356 (May) 1921.
11. Deichler, L. W.: Involvement of Ocular Muscles Due to Focal Infection of the Teeth, read in Philadelphia, February, 1922.

Is Your Community Fit?—Is your town an industrial center? Are the workers properly housed and fed? Have the working conditions been investigated so as to reduce to a minimum the health hazards of the industries? The prosperity of your community depends largely on maintaining the maximum output of your industries, and this in turn depends largely on the health of the workers.—*Pub. Health Rep.*, April 25, 1919.

ACUTE PANCREATITIS IN CHILDREN

REPORT OF CASE WITH CIRRHOSIS OF LIVER

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If one is to be guided correctly by the accounts of or, rather, the lack of accounts of pancreatitis in the leading textbooks on pediatrics; from personal communications from twelve eminent pediatricians of the United States and from several of our leading pathologists, none of whom admit having ever encountered a case, and from a rather careful survey of the literature, acute pancreatitis in children is a very rare condition. It seems expedient, therefore, that the present case be placed on record.

In 1889, Fitz read his memorable paper on acute pancreatitis before the New York Pathological Society, and classified acute pancreatitis as being either hemorrhagic, suppurative or gangrenous. In recent years, surgeons and pathologists have added a fourth type of acute pancreatitis: the acute nonsuppurative.

These cases of simple nonsuppurative pancreatitis are comparatively mild in nature. The patients recover, and such cases are rarely, if ever, seen at necropsy. It is in this group, no doubt, that the cases of acute pancreatitis belong which develop during the course of or as sequels of scarlet fever, diphtheria, mumps and other acute infections. That a simple acute pancreatitis does occasionally occur during the course of or following the conditions named above can hardly be denied. Goldie [1] reported five such cases in children between the ages of 5 and 9 years. His cases displayed a syndrome in which there were abdominal pain of sudden onset, and usually nausea and vomiting, with swelling and tenderness over the upper abdomen in the region of the pancreas, shortly followed by jaundice and clay-colored stools.

This extract from Sharp's [2] paper on the relationship and interchangeability of pancreatitis and parotitis is interesting in this connection:

> The writer based his remarks on a long-continued severe and widespread epidemic affecting patients aged from 17 months to 35 years. The temperature was never higher than 101 F. or 102.5 F., and the pulse rate was generally comparatively slow. In one family a girl began with a severe parotitis, which cleared up and showed no further sequel. A brother ten days later began with pancreatitis, and passed blood and fat in the stools. The condition was diagnosed as acute pancreatitis. The boy never showed signs of parotitis. A boy of 12, who was exposed to the infection, had great pain in the left hypochondrium and the epigastrium, with vomiting of great quantities of blood, although after the acute symptoms had passed away no tumor could be felt. This was thought to be another case of acute panacreatitis without the usual affection of the parotid.

Pratt [3] suggests that many cases giving a history of attacks of pain in the abdomen simulating gallstone colic are, in reality, mild attacks of acute pancreatitis. To substantiate this view, he cites the findings at operation in several cases that gave such a past history. At operation, a well defined pancreatitis was found, but there was no evidence of any disease of the gallbladder or bile ducts. To emphasize further the possible frequency of the simple nonsuppurative type of pancreatitis in children, I insert these lines from Ochsner.[4]

> We feel safe in saying that clinical observations point to the possibility that simple inflammation of the pancreas is not rare, occurs often in childhood, and, like chronic nephritis, is now recognized as a long-deferred sequel of scarlet fever in certain cases. Likewise, certain scleroses of the pancreas, first observed in recent years, will no doubt be ascribed to a process inaugurated by earlier infective pancreatitis.

I have been unable to find any reported cases of acute gangrenous or acute suppurative pancreatitis in children. No doubt, other cases have been reported; but the only other case of acute hemorrhagic pancreatitis in a child that I could find was reported by Phélip,[5] and, briefly, is as follows:

> B. C., a girl, aged 7 years, whose hereditary antecedents were negative, was suddenly taken with severe abdominal pains and alimentary vomiting, Aug. 6, 1919, at 11:30 o'clock. The pains were localized to the umbilicus. The vomiting persisted, and gradually became bilious; then there were several brownish vomitings, having the appearance of cooked blood, becoming greenish, August 9. A median, subumbilical laparotomy, August 10, disclosed an epigastric mass covered by the omentum. The tumor was situated in the transverse mesocolon, and occupied its thickness up to the point at which it is attached to the wall of the abdomen. The upper and lower surfaces of the transverse mesocolon were covered with yellowish patches. The gastrocolic ligament was incised. The posterior cavity of the omentum also contained yellowish granulations; the tumor extended to the posterior wall of the posterior cavity, forming a large, motionless, subpyloric mass. The transverse colon and the pylorus appeared to be healthy and independent of the mass. The abdomen was closed without drainage. The patient died, August 11. At necropsy, no lesion of peritonitis was found; milky-white patches were noted on the omentum and omental fringes. The epigastric tumor consisted of the very large and hard pancreas; at its surface, the peritoneum was covered with broad whitish patches. On section, the pancreas was enormously hard, and pinkish-white.
>
> Histologic examination revealed (1) fragments of perirenal fat; cytosteatonecrosis; (2) fragments of the pancreas; sclerosed pancreas. Certain lobes showed a marked degeneration of the acini, some of which were reduced to the state of a granular mass; there were all stages of necrosis.

ETIOLOGY OF ACUTE PANCREATITIS

So far as I know, almost all writers on the subject agree that acute pancreatitis is the result of the change of trypsinogen, an inert substance normally found in pancreatic juice, into trypsin, a proteolytic substance, before the pancreatic juice leaves the pancreas. Normally, trypsinogen is not converted into trypsin until it reaches the duodenum, where it is acted on by the enterkinase of the intestine. If trypsinogen then is converted into trypsin before it leaves the pancreas, there is nothing to prevent this active proteolytic substance from causing autodigestion of the pancreatic tissue. The severity of the pancreatitis that results, therefore, depends on the amount of trypsin liberated. Investigators have found many substances which, when introduced into the pancreatic duct, will, under given conditions, convert trypsinogen into trypsin. Among these are bile, gastric juice, duodenal juice, various salts, bacterial toxins and oils. There is little doubt that the bacterial toxin is the chief factor, in most cases. The pathologic condition which in the past has most often been associated with pancreatitis is cholecystitis, with or without gallstones. The frequency with which gallstones have been found in cases of acute pancreatitis, no doubt, has stimulated the view that "gallstones might lead to the production of acute pancreatic necrosis (1)

1. Goldie: Lancet **2**: 1295, 1912.
2. Sharp: Brit. M. J. **1**: 808 (April 4) 1908.
3. Pratt: Oxford Medicine **3**: 473.
4. Ochsner: Surgical Diagnosis and Treatment **2**: 427.
5. Phélip, J. A.: Deux cas de pancréatite, Arch. de méd. d. enf. **23**: 357 (June) 1920.

by facilitating the flow of infected bile into the pancreatic duct when they lodge in the diverticulum of Vater, and (2) by allowing entrance of intestinal contents, when they dilate the biliary orifice by their passage." Mann and Giordano's [6] recent studies on the bile factor in pancreatitis show rather conclusively that gallstones as a mechanical factor could not be expected to play a very important rôle in causing pancreatitis. If we assume that gallstones play a very important part in the etiology of pancreatitis, it is rather difficult to explain the fact that, while gallstones occur more frequently in women, pancreatitis occurs more frequently in men, and, as Deaver and Pfeiffer [7] have pointed out, 36 per cent. of chronic cases and 12 per cent. of acute cases show no demonstrable lesion of the biliary passages. Diseases of the stomach and duodenum occur more frequently in men than in women. Might not this be another factor to consider?

I believe that the most accepted view and the one that can be most widely applied is that which has been advocated by Maugert, Arnsberger, Deaver, Sweete and others: "The infection which activates the trypsinogen is carried to the pancreas by way of the lymphatics, the primary infection being in the gallbladder, the bile ducts, the liver, the duodenum or the stomach." Bartels and Franke have shown conclusively that there exists an intimate relationship between the lymphatics of the pancreas and the lymphatics of the duodenum, gallbladder and bile ducts. Surely, this theory seems most applicable in the case here reported, which shows no gallstones or any demonstrable lesion of the biliary passages, but does show a duodenitis:

REPORT OF CASE

A white girl, aged 4 years, American, was admitted to the Connemaugh Valley Memorial Hospital, Nov. 26, 1922, at 8:40 p. m., because of pain in the abdomen, vomiting and constipation. The family history was not important. The patient was a full-term, normally delivered child. She had been breast fed six months, and bottle fed four months. She was quite well until about the age of 3 years, when she contracted whooping cough, which affected her for five or six months. She never had mumps, scarlet fever or measles; no one in the neighborhood had had mumps. Friday, November 24, the child ate dinner consisting largely of cabbage, but went to bed Friday night apparently in normal health. Saturday, at 4 a. m., she complained of abdominal pain, and soon began vomiting. The vomitus contained food particles eaten the day before. A physician at 9 a. m. found the child very ill, but without much fever. He prescribed cathartics and something to ease the pain. In the interval between Saturday morning and Sunday evening the child became progressively worse: the abdomen became more distended and rigid, and vomiting continued. She did not have a bowel movement from the onset of the illness to the time that she was brought to the hospital. The patient had one bowel movement, consisting of a dark bluish, semiliquid material, just before she died. The stool was quite large.

The child was small and well nourished. There was an anxious expression on her face; she was restless and cyanotic, with cold extremities. The radial pulse was absent. The apex beat was scarcely audible. The heart was very rapid. The temperature was subnormal. The abdomen was greatly distended and tympanitic. There was very little muscular rigidity. No tumors were felt in the abdomen. There was general tenderness over the abdomen.

The patient died one hour after admission to the hospital. While in the hospital the temperature was subnormal, the pulse very weak and rapid, and respirations accelerated.

Necropsy was performed fourteen hours after death. Over the chest and back there was a light reddish discoloration of the skin; the areas of discoloration were patchy in character. The pupils were equal and dilated. The superficial lymph glands were not palpable. The abdomen was distended and tympanitic. There were no areas of discoloration over the abdomen. When the peritoneum was opened, a quantity of bloody exudate was noted, in the dependent portion of this cavity. The amount of fluid present was, approximately, from 150 to 200 c.c. There were several small, grayish yellow areas of necrosis in the omentum. These grayish yellow flecks were present along the appendices epiploicae of the large intestine, in the mesentery, and in that part of the parietal peritoneum in the neighborhood of the umbilicus. The average size of these grayish yellow flecks was approximately 5 mm. in diameter. The arch of the diaphragm on the right side extended to the fourth interspace, and on the left side to the fifth interspace. The large intestine was considerably distended, the small intestine only moderately distended. Along the superior surface of the transverse colon and adjacent omentum there was a diffuse area of hemorrhage. The greater part of the hemorrhage seemed to be confined to the subserous and retroperitoneal region.

The liver weighed 925 gm., and measured 20 by 14 by 7 cm. The capsule was thickened. The edges were rounded. The organ was light brownish yellow, and considerably paler than normal liver. The organ cut with a pronounced increase in resistance. The liver, in general, resembled a fatty liver, although the consistency was that of a cirrhotic liver. The gallbladder and ducts showed no gross changes. Thin, greenish yellow bile could be freely expressed into the duodenum by moderate pressure on the gallbladder.

The stomach was slightly dilated, mostly from the gas that was present; but there was also some mucus and watery fluid. The mucosa was reddened and slightly congested, but did not appear acutely inflamed.

The mucosa of the duodenum was only moderately congested, but was definitely swollen and edematous. There were numerous small elevations, the size of a pinhead, which grossly appeared to have an excoriated top. Aside from these small excoriations, there was no area which might suggest a duodenal ulcer.

The mucosa of the remainder of the intestinal tract was somewhat edematous and "weepy" in character, but presented nothing to suggest an enteritis. There was considerable redness of the transverse colon on the superior surface. This discoloration was the result of hemorrhage, the distribution of which would lead one to believe that the extravasated blood came not from one large vessel but from many small ones. It was along this area that fat necrosis was most conspicuous. When the omentum was separated from the colon, and the lesser peritoneal sac, which contained only a few cubic centimeters of blood-tinged fluid, was exposed, more hemorrhagic discoloration and fat necrosis were seen.

The pancreas was soft, swollen and edematous. It showed a considerable quantity of subcapsular hemorrhage, and areas of fat necrosis could be seen over the surface. On incision of the pancreas, small, hemorrhagic areas were noted in the substance of the gland; but the greater part of the hemorrhage was confined to the subcapsular region. The pancreas appeared to be very nearly a half larger in size than it should be. The anatomic relationship between the opening of the common bile duct and the pancreatic duct was about the same as exists between the openings of a double barrel shotgun. The boundaries of the ampulla of Vater were ill defined.

Sections of the pancreas showed extensive areas of necrosis in which the acini and the lobules were completely obliterated. Such necrotic areas gradually merged into areas in which the parenchyma had a more normal arrangement; even in such areas, however, the cells lining the acini were swollen and degenerated. Polymorphonuclear and mononuclear leukocytes infiltrated the entire gland tissue. At places, the walls of the blood vessels had undergone necrosis and permitted the escape of blood into the surrounding tissue. The main ducts showed extensive exfoliation of the epithelial lining, and necrosis of the duct walls was frequently noticed. Generalized edema of the pancreas was present.

6. Mann, F. C., Giordano, A. S.: The Bile Factor in Pancreatitis, Arch. Surg. 6:1 (Jan.) 1923.
7. Deaver and Pfeiffer, in Ochsner: Surgical Diagnosis and Treatment 2:427.

The liver showed a well developed cirrhosis in which the capsule was thickened, and the fibrous changes, which were pronounced, were largely limited to the interlobular tissue. Fibroblasts and round cells were present in the interlobular areas. The liver cells showed an abundance of small fat globules when stained by appropriate stains.

The gallbladder was normal.

The duodenum showed areas in which the epithelium was missing; but these areas were scarce. There was a pronounced edema and lymphocytic infiltration of the mucosa and submucosa.

The lymph nodes obtained from about the stomach and the head of the pancreas presented the picture of an acute adenitis.

The pathologic diagnosis was: acute hemorrhagic pancreatitis with fat necrosis; cirrhosis of the liver; acute catarrhal duodenitis; acute perigastric and peripancreatic adenitis; hemoperitoneum.

COMMENT

This case is believed to be unique in that (*a*) it is a case of acute hemorrhagic pancreatitis in a child; (*b*) there are no lesions of the gallbladder or biliary passages; (*c*) there is a well defined cirrhosis of the liver, and (*d*) there is a well defined acute duodenitis present.

DIETARY CONSIDERATIONS IN INFANTILE ECZEMA*

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In an eight-year clinical study of that type of infantile eczema involving the cheeks, I have come to the conclusion that the part played by diet is only secondary.

Reflecting every periodic wave of medical thought, observers have ascribed the etiology of eczema to infection, to vagotonia, to constitutional anomaly, and to allergy. During the last decade many pediatricians have followed the teachings of Adelbert Czerny, who offered in explanation an underlying constitutional background—the "exudative diathesis." This diathesis he believed to be greatly improved by withdrawal of fat from the diet. Hence the great emphasis placed by his followers on the effect of food therapy. Repeated observations, however, impugn the definiteness of this constitutional anomaly; and, again, the effect of fat withdrawal on the eczema is by no means as conclusive as was originally taught.

It was decided that a feasible method of reopening the question would be to follow for a number of months groups of new-born infants, and to record the characteristics of all those developing eczema. After a period of eight years I am by no means convinced of any deep underlying constitutional anomaly. Eczemas developed in the overweight and the underweight, in those with adenopathy and those without, in those with subcutaneous tissue flabby and those with it firm. A characteristic common to the vast majority, namely, blue eyes, blond hair, and skin of very delicate, fine texture in all but the involved parts, easily can be attributed to a simple deficiency of pigment. Even if it were proved definitely that fat withdrawal improves exudative diathesis, the scarcity of cases showing such a syndrome invalidates indiscriminate tampering with the diet.

Diet affects eczema apparently in two ways—but it must be emphasized that this influence is purely secondary: (*a*) by affecting the nutrition of the whole child, and (*b*) by affecting the amount of fluid in the tissues.

(*a*) No organ in the child's body is more sensitive to nutritional change than the skin. The well-nourished skin resulting from good general nutrition is better equipped than is the poorly nourished to combat pathologic change. Contrary to tradition, a large number of eczema patients are undernourished. Simply by an increase in the diet so as to improve the general nutrition and hence the nutrition of the skin, many severe cases progress to perfect recovery. No local treatment whatsoever is necessary. Increase rather than decrease of food may effect surprising cures.

(*b*) The influence of diet on body fluids is somewhat more complicated. Various food combinations, such as salt or salt and carbohydrate, cause a shift in the content of body water. Hence, if an eczema tends to be of the moist type, a diet rich in mineral matter and carbohydrate, by calling increased fluid to the tissues, will result in increased oozing of the eczema. A diet low in mineral and carbohydrate, by depleting the tissues of water, will result in a drying and apparent improvement of the eczema. But it must be emphasized that this phenomenon is a purely incidental reaction. It is in no way related to the primary eczema, but is simply an evidence of changing amounts of water in the body tissues.

No greater injustice can be done the little patient than that of failing to recognize the difference between the primary eczema and the secondary manifestations. Believing the oozing to be a feature of the primary eczema, physicians have restricted the diet in one way or another. The resulting improvement in the cheeks, however, does not signify a change in the real eczema, but rather the resulting dryness and pallor are the symptoms of grave malnutrition. As soon as the diet is increased to normal, the whole process recurs. It is probable that the benefits usually attributed to fat withdrawal belong entirely in this category of incidental reactions. Fat plays a part only if restricted to amounts insufficient to permit a gain in weight. The same apparent benefit would follow withdrawal of protein, mineral or carbohydrate—anything causing tissue starvation. Fat in amounts insufficient to cause a gain is harmless. Indeed, in an undernourished child because it improves general nutrition, fat in rather considerable amounts may work a cure.

If one considers weeping as a purely secondary development, a dietetic regimen different from the orthodox underfeeding becomes feasible. Though an increased diet, by making the tissues richer in body fluid, causes the eczema to appear temporarily worse, still a maintenance of this very same diet by improving the nutrition of the skin, eventually will enable it spontaneously to correct the difficulty. In addition, one has a healthy, happy baby. Here lies one of the secrets of the dietetic therapy of eczema. If medical men would be a bit more patient before drawing conclusions, they would learn that in an undernourished child many a diet which makes the eczema temporarily worse, bringing increased redness and weeping, will, if persisted in, cure the very same eczema by improving general nutrition. After the initial weeping, the baby gains in weight; and, with improved nutrition, the skin slowly heals.

Not every case comes under this category. Eczemas certainly appear in overfed, overweight children. Whether improvement following restriction of diet in such cases is due to a fundamental action on the eczema

* From the Northwestern University Medical School and the Michael Reese Sarah Morris Hospital for Children.

and not purely to the secondary influence described above is open to question.

It will be noted that nothing has been written concerning the etiology of primary eczema itself. I believe that this is purely a dermatologic problem. In many cases it can be traced to some type of irritant. Recently, the studies of Shannon, and those of O'Keefe, would ascribe the fundamental basis of the eczema to a hypersensitiveness to certain foods. If these observations remain unchallenged, unquestionably certain cases fall into such a group. Some doubt has been raised, however, by the recent contribution of Stuart.[1] Then, too, the eczema of infants spontaneously healing at the age of 6 months would be an old clinical type of anaphylaxis. I have seen many patients removed from the breast with absolutely no improvement. Grulee has reported the case of an eczematous child who reacted to a certain food with urticaria, proving in this one child, at any rate, that the mechanisms are not identical.

TREATMENT

Very little has been written of prophylactic treatment. Believing in the essentially dermatologic origin of eczema, I have attempted to bring the skin of the predisposed fair-haired, blue-eyed children to the best possible state of nutrition. True, irritants at times bring hyperemia and even papule formation to sensitive cheeks; but the application of a mild protecting salve of any sort—simple cold cream—is sufficient to prevent spreading of the process. If the diet is absolutely unchanged, findings soon disappear. They may reappear again at intervals, but rarely progress to the classical type illustrated in textbooks. If the skin of an infant is maintained in good nutrition from the time of birth, and at the same time protected from irritants, dread eczemas rarely appear.

The active dietetic treatment, from the standpoint of the pediatrician, is that which most rapidly brings the child to the best possible state of nutrition. No one particular diet helps; no one diet harms. The main consideration of the pediatrician is to place the welfare of the whole body above that of an individual organ. If he steadfastly adheres to this principle, local symptoms gradually disappear in proportion to improvement in the general condition. Indications for restriction of diet are only two. In an overfed baby with an oozing eczema, reduction of food intake is of value. In an infant whose eczema has become secondarily infected, a temporary reduction of diet, by depleting the tissues of fluid, dries the cheeks and leaves a field less fertile for bacterial growth. In these cases there is no particular reason for reducing one element of food. Restriction of quantity is all that is necessary.

104 South Michigan Avenue.

1. Stuart, H. C.: The Excretion of Foreign Protein in Human Milk, Am. J. Dis. Child. **25**: 135 (Feb.) 1923.

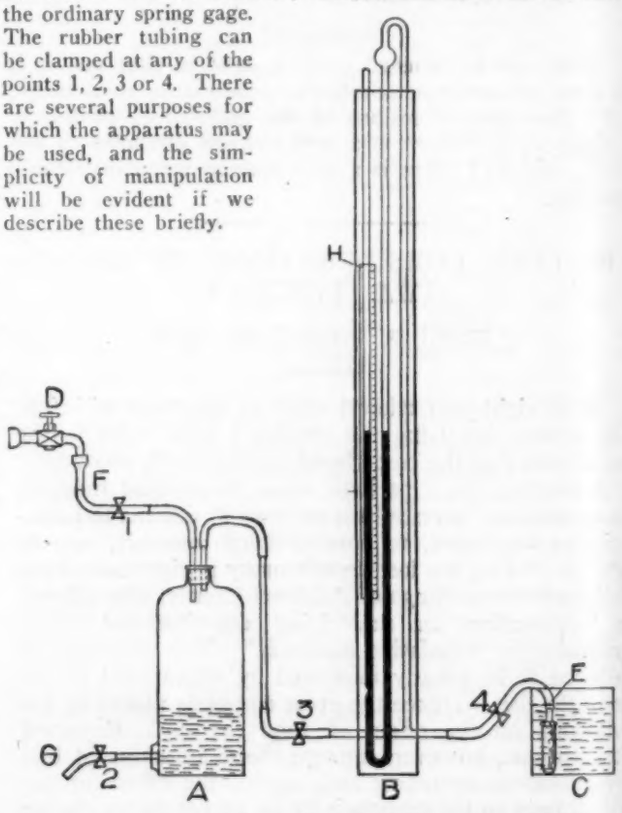
Public Health in Brazil.—Public health work in Brazil really began with the arrival of King John VI of Portugal in 1808, who promptly appointed a chief surgeon, a chief physician and a chief purveyor, charged with the duty of supervising the teaching and practice of medicine and surgery, the operation of hospitals and drug stores, the prevention of epidemic diseases and the sanitary protection of ports. Vaccination was introduced in 1804, and a board was organized in 1811, and reorganized in 1846, to take charge of the matter. A public health chemical laboratory was established in 1812. The first medical school was the surgical college at Bahia, followed in the same year (1808) by the Rio Medical School.

Clinical Notes, Suggestions, and New Instruments

A SIMPLE APPARATUS FOR TESTING AND WASHING FILTER CANDLES *

F. H. KROCK, A.B., AND W. L. HOLMAN, M.D.,
STANFORD UNIVERSITY, CALIF.

The importance of testing filter candles by the air pressure method has been pointed out by Bulloch and Craw[1] and by Ferry.[2] The apparatus here described was designed to simplify the test, and to give greater control over the manipulations. It consists of a 4-liter aspirator bottle, *A*, and an S-open-end manometer, *B*, as shown in the illustration. The manometer is more accurate, cheaper, and more useful than the ordinary spring gage. The rubber tubing can be clamped at any of the points 1, 2, 3 or 4. There are several purposes for which the apparatus may be used, and the simplicity of manipulation will be evident if we describe these briefly.



Apparatus for testing and washing filter candles.

PURPOSES FOR WHICH APPARATUS MAY BE USED

1. *Testing the initial capillary pressure of a filter candle.* The candle, previously dried for about one hour at 100 C., is attached at *E*, the tubing clamped at 3, and the candle immersed in clean water in an open vessel, *C*. The pressure caused by the water soaking into the pores of the candle and displacing the contained air is recorded on the manometer, *B*, and can be read by moving the scale, *H*. One of our 8 by 1 inch Mandler filter candles gave a reading of 355 mm. of mercury, or about 7 pounds of air pressure per square inch.

2. *Testing the pressure at which a filter candle leaks air.* The candle is first soaked in water for twenty-four hours. It is attached at *G*, the tubing is closed at 4, and water is run into *A* from tap *D* until a pressure of not more than 500 mm. of mercury is recorded. The water from *A* forces out any air confined in the candle. The candle is removed, the pressure is lowered by running the water out at *G*, and

* From the Department of Bacteriology and Experimental Pathology, Stanford University.

1. Bulloch and Craw: On the Transmission of Air and Micro-Organisms Through Berkefeld Filters, J. Hyg. **9**: 35, 1909.

2. Ferry, N. S.: The Filterability of Bacillus Bronchisepticus: With An Argument for a Uniform Method of Filtration, J. Path. & Bacteriol. **19**: 488, 1915.

the candle is attached at *E*. The tubing is closed at 2, opened at 4, and the pressure slowly increased by filling the bottle *A*. The pressure at which air leakage takes place at the joint, at any point or points, or freely from the entire filter is recorded. After a free flow of air is passing through the filter, the clamp at 2 is slowly released, and the pressure very gradually lowered until air leaking has ceased. The point at which air starts through the filter as the pressure goes up, and that at which it ceases to flow with the lowering pressure, is usually different.

3. *Washing filters from within outward.* It is dangerous to attach a filter candle to the ordinary water faucet, as the pressure has often been found high enough to crack the candle. If the candle is attached at *G*, 4 closed, and the bottle *A* half filled with water, the pressure can be controlled at any desired point, and the candle thoroughly and safely washed.

4. *Testing a filter under a given vacuum.* A water or other filter pump is attached at *F*, and the filter flask or tube at *E*. It is useful to close 4 until the desired vacuum is obtained, and with 1 closed, 4 is opened and thus a steady and known negative pressure can be maintained. The vacuum can be broken slowly by opening 2, and allowing air to bubble through the water. It is unreliable to test filters with a fluctuating pressure.

COMMENT

We advocate this simple apparatus because it answers the purposes for which it was designed, and because it is highly desirable that filter candles should be tested by some standard method so that comparable results may be obtained by all workers.

The term "filter passer," to have any real meaning, must be better defined. A "tested filter candle" means very little unless we know certain facts. Among the facts necessary are: the pressure used; the equality or fluctuating of the pressure; the time the filtration takes; the name of the bacterium used for testing; the age of the culture of the bacterium; the culture medium or the suspending fluid used with content of electrolytes and reaction; any primary manipulation of the material, such as shaking with beads or paper filtration; the pressure under which the filter leaks air, and the treatment of the filter candle between the primary test and the test of the "filter passer."

It is true that this information is seldom given, and yet, we repeat, it is necessary before we can understand the meaning of the terms mentioned.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

CARBON TETRACHLORIDE MEDICINAL.—Carbonei tetrachloridum medicinale.—Tetrachlormethane.—CCl_4.

Actions and Uses.—Carbon tetrachloride has narcotic and anesthetic properties somewhat similar to those of chloroform. It has recently come into use as a vermifuge in the treatment of hookworm disease. It also removes some intestinal parasites other than the hookworm, such as *Oxyuris vermicularis, Ascaris lumbricoides* and *Trichocephalus dispar*, but it is less effective against these worms than some other drugs, such as oil of chenopodium. It is reported that usually about 95 per cent. of the hookworms are removed by the first dose of carbon tetrachloride and that occasionally all are removed. As a vermifuge it appears to be relatively safe, but serious symptoms and even death have been reported, especially in patients addicted to the use of alcohol. The best results are obtained by administration in water or milk or in gelatin capsules on an empty stomach, followed in 3 hours by a purgative dose of magnesium sulphate. The capsules may be prepared extemporaneously. A mild laxative is generally given to constipated patients on the day previous to treatment. To insure complete removal of the hookworms a test dose of oil of chenopodium, 3 Cc. (45 minims) may be given a week after the treatment with carbon tetrachloride. A second dose of carbon tetrachloride medicinal should not be given within three weeks. Alcohol should not be taken during treatment.

Dosage.—From 2 to 3 Cc. (30 to 45 minims). Children 0.13 Cc. (2 minims) for each year of age up to fifteen years. The dose of 3 Cc. should not be exceeded.

Carbon tetrachloride is a clear, colorless, mobile liquid, having a characteristic, ethereal odor somewhat like that of chloroform; almost tasteless. Carbon tetrachloride is almost insoluble in water and glycerine; miscible with alcohol, chloroform, petroleum benzin and benzene; also soluble in most of the fixed and volatile oils. Specific gravity not less than 1.588 at 25 C. Carbon tetrachloride is volatile at ordinary temperature, but is not inflammable. Medicinal carbon tetrachloride boils at from 76 to 77 C.

Shake 10 Cc. of carbon tetrachloride medicinal with 10 Cc. of water. The aqueous layer should be neutral to litmus paper and should not give an opalescence with silver nitrate solution (*chloride*). Shake 10 Cc. of carbon tetrachloride medicinal with 10 Cc. of water containing a few drops of potassium iodide solution. On standing for five minutes the lower layer should not be colored violet (*free chlorine*). Warm 10 Cc. of carbon tetrachloride medicinal with 10 Cc. of 25 per cent. potassium hydroxide solution. No yellow or brown color should develop (*aldehydes*). Mix 10 Cc. of carbon tetrachloride medicinal with 10 Cc. of sulphuric acid and shake occasionally for 5 minutes. Not more than a barely perceptible color should be present in either layer (*organic impurities*).

Evaporate 25 Cc. of carbon tetrachloride medicinal almost to dryness in a weighed dish on a steam bath. Allow the balance to evaporate spontaneously. The residue, if any, should be odorless. Dry the residue at 100 C. and weigh. The residue should not weigh more than 0.001 Gm. About 5 gm. of carbon tetrachloride medicinal are weighed, placed in a reflux apparatus with 20 Cc. of half-normal alcoholic potassium hydroxide and the mixture gently boiled for 30 minutes. The solution is diluted with 50 Cc. of water and 5 Cc. of 20 per cent. alcoholic potassium hydroxide solution, the mixture warmed on the steam bath until the carbon tetrachloride and alcohol have been removed and 50 Cc. of bromine water are added gradually to the alkaline solution. (An excess of bromine water must be used.) After warming for 15 minutes an excess of hydrochloric acid is added and the solution filtered. An excess of barium chloride solution is then added and the barium sulphate collected, heated and weighed in the usual way. The weight of barium sulphate obtained should correspond to not more than 0.1 per cent. of carbon disulphide.

Carbon Tetrachloride Medicinal-M. C. W.—A brand of Carbon tetrachloride medicinal-N. N. R.

Manufactured by Mallinckrodt Chemical Works, St. Louis. No U. S. patent or trademark.

Carbon Tetrachloride C. P.-P. W. R.—A brand of Carbon tetrachloride medicinal-N. N. R.

Powers-Weightman-Rosengarten Co., Philadelphia, distributor. No U. S. patent or trademark.

BORCHERDT'S MALT EXTRACT (PLAIN).—See N. N. R., 1923, p. 178).

Borcherdt's Malt, Cod Liver Oil and Iron Iodide: Each 100 Cc. contains ferrous iodide 0.88 Gm. (4 grains per fluidounce), cod liver oil, 25 Cc. and Borcherdt's malt extract (plain), 75 Cc.

SULPHARSPHENAMINE (See THE JOURNAL, March 31, 1923, p. 919).

Sulpharsphenamine-Squibb.—A brand of sulpharsphenamine-N. N. R.

Manufactured by E. R. Squibb & Sons, New York, under U. S. Patent 1024993 (April 30, 1912; expires, 1929) by license of the Chemical Foundation, Inc.

Sulpharsphenamine-Squibb, 0.1 Gm. Ampules.
Sulpharsphenamine-Squibb, 0.2 Gm. Ampules.
Sulpharsphenamine-Squibb, 0.3 Gm. Ampules.
Sulpharsphenamine-Squibb, 0.4 Gm. Ampules.
Sulpharsphenamine-Squibb, 0.5 Gm. Ampules.
Sulpharsphenamine-Squibb, 0.6 Gm. Ampules.

MODIFIED PNEUMOCOCCUS VACCINE.—A vaccine or "antigen" prepared by digesting a suspension of pneumococci of Types I, II, III and Group 4 at 37 C. until about 95 per cent. of the organisms have become gram-negative and the mixture is relatively nontoxic to guinea-pigs. It is believed that this method yields a vaccine with a greater protective power.

Actions and Uses.—There is some evidence that this vaccine is of value in the treatment of lobar pneumonia. It is not intended for prophylactic use.

Eli Lilly & Company, Indianapolis.

Pneumococcus Antigen-Lilly.—Marketed in 5 cubic centimeter vials, each cubic centimeter containing 20 billion partially autolyzed pneumococci.

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SATURDAY, APRIL 21, 1923

THE CAPILLARIES IN HEALTH AND IN DISEASE

The integration of parts into the unit organism is achieved in animals by energy transmitted through the nervous system and by substances transported through the blood; and clarification of the mechanism of these processes must yield notable results. Although the problem of nervous regulation has been vigorously attacked, the sister problem of the control and care of tissues and organs by means of the blood stream has long languished. Circulation of the blood has for its one end the carrying to and from tissues of various dissolved substances, and this exchange can occur only through the capillary bed. In these structures, then, must the essential physiology be sought. Now, 250 years after capillaries were first described, physiologists, notably Krogh,[1] are attacking the problem.

The capillaries were long regarded as passive endothelial filters with no muscle and therefore no independent contractility, being distended or collapsed as the inside pressure (modified by arteriole contractions) became greater or less than that outside. That capillaries do possess the ability to contract is now abundantly proved. The microscope shows that they not only become noticeably smaller when a high internal pressure is cut to 0, but will entirely disappear on electrical stimulation. Conversely, if a small venule is gently stroked with a hair, a capillary bud soon appears, and grows as the stroking is continued in front of it until the dilating capillary finally opens into an arteriole and a current of blood sweeps through. Such independence explains, for example, how the skin may be at once pale (little blood present, owing to contracted capillaries) and hot (rapid flow due to dilated arterioles), and affords the basis for the abnormal capillary shapes seen in renal disorders[2] and for the many "angioneurotic" skin diseases. Capillary contractility, when firmly established, was explained in terms of endothelial swelling until Krogh and Vimtrup rediscovered on the capillary endothelium, especially near the arterioles, fine branching muscle cells which tend to encircle the tube and are able by contraction to fold the endothelium and obliterate the lumen. These cells, which have been named Rouget cells for their discoverer (1873), bring the further study of the control of capillaries into the same category as other contractile tissues.

The Rouget cells receive fibers from the sympathetic, and are under its motor and tonic control, stimulation of the nerve leading to prompt capillary constriction, and section of it to a fairly permanent dilatation. Dilator influences, to the skin capillaries, at least, seem to travel along fibers in the posterior root, and may be concerned in the well known reflex erythema following painful stimulation of the skin (it is abolished by cocain or by injury to the nerves or cord of the region). Krogh points out also the significance of this reaction in herpes zoster. Direct mechanical stimulation will produce dilatation if weak and contraction if strong, a local chemical stimulus, as dilute iodin, only dilatation; the effects in each case spreading in proportion to the intensity of stimulus. These reactions are in varying degrees mediated by nerves, which Krogh suggests exist peripherally as a true network. The significance of such observations in the use of counterirritation is apparent at once. Heat and cold produce, respectively, relaxation and contraction of the capillaries as of the arterioles and venules, acting in part through the nerves to them. Ultraviolet light acts directly on the capillaries, and causes a slowly appearing and long persistent dilatation, inducing the well known erythema.

Many substances introduced into the blood stream have marked action on the capillaries. The dilator and paralytic effects, especially on the intestinal capillaries, of histamin and some heavy metal double salts, are well known. Urethane likewise produces extreme dilatation of the capillaries and stasis, without affecting the arterioles, as also do ether and chloroform to a lesser degree. This action accounts for their tendency to bring on shock, by synergizing other capillodilator influences and causing "exemia." The dilator influence of carbon dioxid or other acids is distinctly less than usually believed, and is not sufficient to account for the capillary dilatation in a functioning muscle; but oxygen deficiency, possibly through other metabolites than carbon dioxid, does lead to marked capillary dilatation. Epinephrin causes definite dilatation of certain capillaries, and has no action on many, and, in man, leads to constriction; though electric stimulation of the sympathetic in all these cases causes contraction.

In a beautiful series of experiments, Krogh has adduced evidence that the capillaries are normally kept tonically contracted by a substance present in the blood stream. If the blood flow through a frog's leg is stopped, capillaries of the web slowly dilate in the course of fifteen or twenty minutes from a diameter of 5 microns to one of 20 microns; when flow is again permitted, the capillaries become distinctly contracted

1. Krogh: The Anatomy and Physiology of Capillaries, New Haven, Yale University Press, 1922.
2. Nevermann: Zentralbl. f. Gynäk. **16**: 617, 1922.

in five minutes. This indication of a constrictor agent of hormone nature in the blood stream was further followed by perfusion experiments with defibrinated ox blood controlled with 3 per cent. gum, Ringer solution and ox corpuscles. In the controls, the capillaries began to dilate at once; with the ox serum present, the capillaries remained normal for hours. The active substance could be demonstrated in a dialysate of ox serum, and many of its properties determined. Extirpation of the entire hypophysis caused marked dilatation for weeks of the web capillaries, and a marked instability in response to stimuli; when only the glandular part (anterior lobe in mammals) is removed, this dilatation does not follow. Pituitary extract from the posterior lobe of cows, in dilutions which do not affect arteries at all, causes marked capillary contraction, and; when added to the Ringer perfusion fluids of the experiments mentioned in 1:1,000,000 concentration, was able to maintain the normal capillary tone as well as ox serum. The properties of pituitary extract also closely correspond to those of the dialyzed substance, so that Krogh believes that the pituitary hormone is the substance in blood which maintains capillary tone, and that it is present normally in concentrations of about one part in a hundred million or even less. If a similar control of human capillaries can be shown (and it is well to warn against hasty assumption), the therapeutic value of pituitary extracts in such conditions as shock is manifest. Epinephrin does not have a comparable action.

Krogh next addressed himself to the problem of exchange of substances through the capillary wall, and proved quantitatively that oxygen, carbon dioxid and probably all crystalloids pass through by purely physical processes, as by diffusion, whereas colloids are denied passage through the normal wall, and exert a definite osmotic pressure tending to cause absorption of water from tissue spaces into the lumen. The thinned endothelium of a dilated capillary, however, permits colloids also to pass, so that the entire blood plasma may go from the lumen to surrounding tissues as rapidly as fresh blood is pumped through the arteriole, causing edema of the tissues and leaving the cells packed in the lumen as a solid cast. This is the essential condition in histamin or other types of shock, and the same changes locally may produce wheals and blisters. The capillary pressure in man, as measured directly with a cannula in the capillary lumen and a water manometer, is normally lower than the osmotic pressure because the hydrostatic pressure of the column of venous blood, as in a pendent foot, is kept down by the pumping action of the muscles on the valved veins; in varicose conditions or when muscular action is avoided, the capillary pressure rises above the osmotic pressure, and a resulting edema is easily demonstrated. Such edema fluids are low in protein, while those formed through dilated capillaries are very rich in it.

This new physiology of the capillaries has already explained many cryptic conditions of health and disease, and has opened wide a realm in which further facts are being found. Krogh has indeed justified the statement that he who increases the accuracy of his measurements by one decimal place will open up a new world of human knowledge.

PANCREATIC SECRETION IN MAN

The demonstration of the possibility of a chemical stimulation of the pancreatic gland to secretion, independently of the participation of secretory nerves, is justly regarded as a remarkable modern contribution to the science of physiology. The classic experiments which the London investigators Bayliss and Starling reported twenty years ago showed in a striking way that secretory glands can be excited to activity through influences which reach them by humoral as well as by nervous channels. Through the action of dilute acid on the duodenal mucosa, a substance, secretin, is formed which can accelerate the flow of pancreatic juice even when all nervous connections with the secretory gland are severed. The English physiologists early reached the conclusion that such a mechanism is involved normally in the production of pancreatic secretion, and is responsible for the flow obtained when acids find their way into the small intestine. Normally, this occurs at frequent intervals when the acid contents of the stomach are discharged through the pylorus. This series of reactions has often been pointed out as an example of a mechanism which probably plays an important part in the correlation of the activities of many organs of the body. Starling,[1] indeed, has remarked that in the normal life of the higher animals, which must be considered as a continuous series of reactions to changes in the environment, ending only with death, those reactions which are carried out through the intermediation of the nervous system play such a preponderant part that we have almost forgotten the possibility of other means of coadaptation among the different organs of the body.

Starling has further pointed out that, whereas in the mouth, the reaction, which must be rapid, is entirely nervous, in the stomach there is a mixture of the nervous mechanism with the more primitive chemical mechanism. The nervous secretion preponderates in this viscus. When we come to the pancreas, he adds, the primitive chemical mechanism, namely, the formation of hormones and their circulation through the blood to the reactive tissue, suffices to account for the whole activity of the gland, and it is doubtful whether in this activity the nervous system plays any part whatsoever. Many writers have come to the conclusion, from the striking experiments on secretion and the undoubted promotion of pancreatic flow through the

1. Starling, E. H.: Recent Advances in the Physiology of Digestion, Chicago, W. T. Keener & Co., 1906.

presence of acid in the duodenum, that the latter is the usual, if not the exclusive, normal provocative of pancreatic activity during the digestive cycle. In other words, the presence of acid chyme in the intestine sets free secretin in the mucosa; and some of this finds its way into the circulation, and, in turn, makes the pancreas secrete. The consequences of such an arrangement are obvious. If the regulation of pancreatic secretion is largely dependent on the secretin factor, one might naturally assume that vigorous gastric digestion, with the resulting strongly acid chyme, must go far to insure a normal intestinal digestive performance.

So far as man is concerned, the recent studies of McClure [2] and his associates in Boston may lead to some hesitation in postulating the necessity of an acid factor in the promotion of pancreatic secretion during the digestive cycle. These investigators have studied the character of the duodenal contents withdrawn at frequent intervals through a sound after a variety of types of feeding in man. The reaction of the contents which gave evidence of the content of pancreatic juice through the character and quantity of the enzymes present was frequently measured with accuracy. The findings show that the presence of food in the human intestine in some way stimulated the activity of the external secretory function of the pancreas. They indicate that the principal factor in producing this stimulation was the absorption of the products of digestion rather than the acidity of the gastric chyme. Furthermore, in achylia gastrica and pernicious anemia no abnormalities in the activity of the external secretory function of the pancreas were demonstrable, as measured by the enzyme concentration of duodenal contents. These findings suggest that the presence of hydrochloric acid is not necessary in order to stimulate normal pancreatic secretory activity.

If these observations are substantiated, it must become clear that decrease or absence of typical pancreatic enzymes in the intestine need not be due to a lack of acid charged with initiating the production of secretin. Consequently, it seems likely that the estimation of the enzymatic activities of the duodenal contents may furnish a fairly satisfactory index of the external secretory functions of the pancreas. McClure and Jones have, in fact, found it to be much depressed in chronic pancreatitis. In their clinical studies, it was observed that acute pancreatic necrosis, cancer of the head of the pancreas, and lesions obstructing the pancreatic duct were accompanied by marked abnormalities in enzymatic activities of the duodenal contents. Obstructive lesions caused great diminution, while acute necrosis usually caused dissociation in enzymatic activities.

Other "by-products" of the Boston investigation are not without interest to the student of gastro-enterology. They showed that lipolytic activity of the duodenal contents was always, while proteolytic and amylolytic activities were almost always, greater after the ingestion of olive oil than after the ingestion of protein or carbohydrate food. From this it is inferred that olive oil was a more powerful stimulant to the activity of the external secretory function of the pancreas than were the other types of food. Water was a less potent stimulant of external pancreatic secretion than were food substances. After the appearance of food substances in the duodenum, there was a latent period before the flow of enzymes and bile began. The time coincident of the onset of the flow of bile and pancreatic juice suggests a common stimulant. This is in harmony with other current evidence. The fact that the fasting duodenal contents contained both enzymes and bile pigments need no longer surprise us. For the stomach, the existence of a more or less continuous secretion is now widely admitted. In the case of the human pancreas, also, Luckhardt, Stangl and Koch [3] of Chicago have demonstrated a continuous secretion amounting to 7 or 8 c.c. an hour, the total daily output mounting to nearly 900 c.c. At the height of digestion, this potent organ can produce in one hour an amount of pancreatic juice equivalent to its own weight.

ROCKY MOUNTAIN SPOTTED FEVER

The submarine emerges from the water, attacks and disappears; in the same way, spotted fever attacks from its base in the Rocky Mountains. It will no doubt appear as usual with the warm days of spring, attack man until the hot days of July, and then withdraw for a season. Such has been its history for many years. Mountain Indians attributed the danger of trips to certain valleys to evil spirits, and early settlers associated the disease with the melting snows.

Spotted fever probably existed in the Bitter Root Valley at least seventy-five years ago. While information concerning two cases in 1873 is probably authentic, the first written account [4] of the disease appeared in 1896. In 1902, McCullough [5] published the first account of the deadly type, citing ninety-two cases with a mortality of 75 per cent. In the same year, the Montana State Board of Health engaged Wilson and Chowning to conduct an investigation. In 1903, the federal government began an almost continuous series of investigations, extending to the present.

Until the brilliant work of Ricketts, Rocky Mountain spotted fever remained a mystery. Its origin was obscure. It was usually fatal in certain comparatively

2. McClure, C. W., and Wetmore, A. S.: Studies in Pancreatic Function: Enzyme Concentration of Duodenal Contents After the Ingestion of Pure Foodstuffs and Food Mixtures by Normal Men, Boston M. & S. J. **187**: 882 (Dec. 14) 1922. McClure, C. W., and Jones, C. M.: Studies in Pancreatic Function: The Enzyme Concentration of Duodenal Contents in Pathological Conditions Involving the Pancreas, Liver and Stomach, ibid., **187**: 909 (Dec. 21) 1922.

3. Luckhardt, A. B.; Stangl, F., and Koch, F. C.: Preliminary Report on the Daily Amount, Physical Properties and Rate of Secretion of Human Pancreatic Juice, Am. J. Physiol. **63**: 397 (Feb.) 1923.

4. Wood, W. W.: Spotted Fever as Reported from Idaho, Report of the Surgeon General of the Army to the Secretary of War, 1896.

5. McCullough, G. T.: Spotted Fever, M. Sentinel **10**: 7, 1902.

small areas, seldom fatal in others, and completely absent in closely adjacent regions. Ricketts [6] went to Montana in April, 1906, and promptly demonstrated that a wood tick (*Dermacentor venustus*) transmits the disease. He also proved that infective ticks exist in nature, and that the virus is transmitted by heredity to succeeding generations of ticks.

The tick concerned in the natural transmission of spotted fever exists in parts of Washington, Oregon, California, Idaho, Nevada, Utah, Montana, Wyoming, Colorado and New Mexico, in which states, except New Mexico, cases of spotted fever have undoubtedly originated.[7] Its distribution is therefore that of its carrier. It is not possible to determine with available records whether or not the disease is spreading over larger areas in these states. However, it appeared in 1915 in eastern Montana, where the disease certainly would have been recognized had it existed prior to that time. The total number of cases that occur annually cannot be accurately stated. Bishopp regarded 700 as a conservative estimate. The mortality rate varies greatly. In the Bitter Root Valley, it is probably greater than 70 per cent.; outside the Bitter Root Valley, it varies from 7.15 to 13 per cent.

The possibility of a widespread extension of the disease, or of a large epidemic, is remote, although several species of ticks, some of which occur over large areas in the eastern and southern portions of the United States, are capable of transmitting the disease. A hopeful feature is that only one species of tick in the Bitter Root Valley attacks man, and its attachment for hours is necessary to infect. Ricketts, in one instance, secured infection in one and three-fourths hours, but from ten to twenty hours' feeding was usually required. Most ticks that attach themselves to human beings are doubtless removed before infection occurs. Spencer and Parker [8] recently collected from the vegetation near Hamilton, Mont., more than 100 lots of ticks, many of which were taken from areas known to be infected, and inoculated the contents of from fifteen to twenty-five ticks from each lot into guinea-pigs, without spotted fever resulting once. When similar experiments were performed with ticks collected from a mountain goat, the disease was transmitted. These experiments have been repeated many times, indicating that before unfed infected ticks, that have hibernated, become infective, the virus must be reactivated by fresh mammalian blood. It is not known what change in the virus occurs as a result of the ingestion of blood, but its apparent necessity explains in part the comparatively small number of human cases of spotted fever.

Therapy, heretofore, has accomplished nothing in curing this disease. Ricketts and Gomez, however, using serum from guinea-pigs that had recovered, were able to prevent infection in normal guinea-pigs when the serum was administered shortly after infection. They were not able to increase the potency of this serum to be useful in human cases. Noguchi [9] has prepared a potent serum in the rabbit; 0.1 c.c. is sufficient to prevent infection in a guinea-pig weighing 500 gm. inoculated with one minimal lethal dose of virus. The serum is easily produced, and will probably remain active a year or longer at refrigerator temperature. In view of the comparative susceptibility of man and the guinea-pig, Noguchi recommends the early intravenous injection of about 0.2 c.c. of the serum per kilogram of body weight in every suspected human infection.

It has not been possible to rid the mountains of ticks, but to make their bites harmless may become simple.

6. Ricketts, H. T.: The Transmission of Rocky Mountain Spotted Fever by the Bite of the Wood Tick, J. A. M. A. **47**: 358 (Aug. 4) 1906; The Rôle of the Wood Tick in Rocky Mountain Spotted Fever, and the Susceptibility of Local Animals to This Disease, J. A. M. A. **49**: 24 (July 6) 1907.

7. Wolbach, S. B.: J. M. Res. **41**: 1 (Nov.) 1919.

8. Spencer, R. R., and Parker, R. R.: Pub. Health Rep. **38**: 333 (Feb. 23) 1923.

9. Noguchi, Hideyo: Immunity Studies of Rocky Mountain Spotted Fever: Usefulness of Immune Serum in Suppressing an Impending Infection, J. Exper. Med. **37**: 383 (March) 1923.

Current Comment

THE CONTROL OF TRACHOMA

Among the diseases that have come particularly into public notice within the last generation is included the contagious malady of the eyelids known as trachoma. Although this menace to the integrity of sight is an admittedly serious one, it is still known to many practitioners and more localities only as a name associated with the problems of preventable blindness. Attention has been focused on trachoma most prominently from the standpoint of public health by the consideration that is given to its possible occurrence in immigrants. Aliens have long been examined carefully at the seaboard ports for evidences of the infection; but trachoma is far more prevalent in the United States than is ordinarily supposed. It has been described for a number of inland localities cut off from frequent contact with the rest of the country; and the surprising incidence of the disease among American Indians has long been recognized by experts, so that it can scarcely be regarded as something characteristic of persons of foreign birth, although sometimes described as such. Ten years ago, surveys made in Minnesota, for example, had revealed a heavy trachoma infection among certain Indian bands in the state, and more or less widely scattered foci of infection among certain elements of the white population; this constituted a distinct menace to the visual health of the state. In one of these investigations, which may serve as an illustration of the work undertaken, only seventy-seven cases of trachoma were found on examination of 49,305 white persons (a ratio of 1:640) in comparison with 533 cases observed among 3,542 Indians (a ratio of 1:7). In another survey, in which eighteen counties of Minnesota were visited, only nine cases of active trachoma were found among more than 35,000

schoolchildren examined. A recent reinvestigation of conditions in the same state by government experts [1] confirms an earlier opinion that there is no unusual trachoma problem in Minnesota outside certain fairly well-defined districts. There is continued indication, nevertheless, that certain heavily infected Indian reservations are a threatening source of danger to the public health of the state. This is evidenced by the increased number of cases of trachoma observed in the course of the survey among the Indians attending the public schools contiguous to Indian reservations. Without attempting to magnify the growing rather than decreasing menace, the surgeons of the U. S. Public Health Service urge the importance of enforcing measures necessary for the control of trachoma among that portion of the Indian population of the state remaining under government guardianship; otherwise, owing to improved facilities for intercommunication, the elimination from the nonreservation population will be greatly complicated, if not impossible. Now that governmental guardianship of the Indian is largely relinquished in this country, public health authorities need all the more to bear in mind those hygienic problems that relate so preeminently to our native race.

ANTIVIVISECTIONIST SCIENCE

To the few physicians who troubled to hear the addresses of Dr. (save the mark) Walter R. Hadwen, when he lectured on antivivisection in this country, no comment is necessary as to his complete disqualification to speak on any scientific medical subject. For the vast majority who, of course, did not trouble to listen to the maunderings of this ancient spokesman for the antivivisection cause, the following quotation from the Starry Cross, published under the auspices of the American Antivivisection Society, will accurately define his knowledge. He was asked:

"What do you advise for one who has germs in the lungs —consumption? Please give some points on this question from one present who is worried about the dread disease."

Answer: "The germs—the tubercle bacilli—you have in your lungs are there for the purpose of splitting up the solid tuberculous matter in order to get rid of it. These germs are never found in the primary stages of the disease. They are not found in 50 per cent. of the ultimate states of the disease. They are found during the process of splitting up, and they are the best friends you can possible have. Don't you worry yourself one bit about getting rid of them. It is like people who drink this pasteurized milk which is certified to contain only a limited number of germs—you need not worry, drink your milk cold, and the more germs there are in it the better it will be for you. As to the question of tuberculosis, practically everybody suffers more or less from it at some time in their lives. I have seen the most extreme cases of tuberculosis, where they have vomited quarts of blood, where they have vomited quarts of sputum, and then have got well and had children afterwards. Never give up a case of tuberculosis, and don't worry yourself about germs."

This reply is typically Hadwennian. It would be funny if the subject were not so tragically serious. It was Goethe who said: "Nothing is more dangerous than active ignorance."

1. Clark, Talliaferro: The Trachoma Problem in the State of Minnesota, Pub. Health Rep. 38: 383 (March 2) 1923.

Association News

THE SAN FRANCISCO SESSION

Hotels for the Annual Session

The following list of hotels with locations and prices is furnished by the Local Committee of Arrangements. Several hotels, as shown by the star, are already booked to capacity. All hotels are conveniently located except those in Oakland and Berkeley, which are about an hour from the Civic Auditorium.

The California Committee will be able to house all guests comfortably. In order that the most agreeable arrangements may be made, it is requested that from now on Fellows write directly to California Headquarters, 806 Balboa Building, for hotel reservations. Please give the date of expected arrival in all applications.

The lower prices quoted below refer to one person. The higher are for one to two persons in a room. Some hotels charge the same for one or two persons. All rooms have baths. Please make reservations early.

Leading Hotels of San Francisco (All European Plan)—Location and Rates

Name and Address	All Rooms with Bath
Alcazar, 326 O'Farrell	$ — $ 3.00
Alexander, 352 Geary St	2.50 — 4.00
Ambassador, Mason and Eddy	2.50 — 4.00
Antlers, 245 Powell St	3.50 — 5.50
Argonaut, 44 Fourth St	2.00 — 3.50
Baldwin, 321 Grant Ave	3.00
Bellevue, Geary and Taylor Sts	3.50 — 5.00
Beresford, 635 Sutter St	2.50 — 5.00
Cadillac, 380 Eddy St	2.00 — 2.50
Cartwright, 524 Sutter St	2.50 — 4.00
Cecil (American plan), 545 Post St	8.00 — 12.00
*Chancellor, 433 Powell St	2.50 — 4.00
Clark, 217 Eddy St	2.50 — 3.50
*Clift, Geary and Taylor Sts	8.00
Colonial, 650 Bush St	4.00 — 5.00
Columbia, 411 O'Farrell St	2.00 — 2.50
Court, 205 Bush St	3.00 — 4.00
Dalt, 34 Turk St	2.50 — 3.50
*Fairmont, California and Mason Sts	7.00 — 10.00
Federal, 1087 Market St	2.50 — 3.50
Fielding, 386 Geary St	2.50 — 3.50
Garfield, 354 O'Farrell St	2.00 — 3.50
Garland, 505 O'Farrell St	2.00 — 3.00
Grand, 57 Taylor St	2.00 — 3.00
Herald, Eddy and Jones Sts	2.00 — 3.50
Herbert's (men only), 151 Powell St	2.00 — 3.00
Kensington, 580 Geary St	2.00 — 3.00
Keystone, 54 Fourth St	2.50 — 3.50
King George, 334 Mason St	2.50 — 5.00
Lankershim, 55 Fifth St	3.50
Larne, 210 Ellis St	3.00 — 4.50
Manx, Powell and O'Farrell Sts	4.00 — 5.00
Maryland, 490 Geary St	2.00 — 3.50
Mentone, 387 Ellis St	2.50 — 3.00
Normandie, 1499 Sutter St	1.75 — 3.50
Paisley, 432 Geary St	2.00 — 3.00
*Palace, Market and Montgomery Sts	8.00 — 10.00
*Plaza, Post and Stockton Sts	5.00 — 6.00
*Ramona, 174 Ellis St	2.50 — 3.50
Regent, 562 Sutter St	2.00 — 3.50
Richelieu, Geary and Van Ness Ave	5.00
Robins, 711 Post St	2.00 — 2.50
Somerton, 440 Geary St	2.00 — 4.00
Spaulding, 240 O'Farrell St	2.50 — 5.00
Stanford, 250 Kearny St	1.00 — 2.00
State, 16 Turk St	1.50 — 2.00
*St. Francis, Union Square	4.00 — 10.00
*Stewart, 353 Geary St	3.50 — 7.00
Stratford, Powell and Geary Sts	6.00
Sutter, Sutter and Kearny Sts	4.00
Travelers, 255 O'Farrell St	2.00 — 3.50
Terminal, 60 Market St	2.50 — 4.00
Turpin, 17 Powell St	3.00 — 3.50
Victoria, Bush and Stockton Sts	2.50 — 4.00
Washington, Grant and Bush Sts	2.50 — 4.00
Wellington, 610 Geary St	2.50 — 4.00
*Whitcomb, Market and Civic Center	4.00 — 8.00
Wiltshire, 340 Stockton St	3.00 — 4.50
Worth, 641 Post St	2.00 — 2.50
Hotel Oakland, Oakland, Calif	3.00 — 10.00
Hotel Claremont, Berkeley, Calif	3.00 — 5.00
Hotel Whitecotton, Berkeley, Calif	3.00 — 5.00

* Booked to capacity.

Alumni and Fraternity Dinners and Entertainments

Dr. Thomas H. Kelly is chairman of the Subcommittee on Alumni and Fraternity Entertainments of the Local Committee of Arrangements at San Francisco. This committee is very anxious to cooperate in any way possible with fraternities and alumni organizations in providing whatever entertainment they desire. Dr. Kelly and the members of his committee will be glad to suggest possible entertainments in San Francisco, and cooperate in bringing them about or making local arrangements required by the organizations.

Officers of those organizations interested should write or telegraph Dr. Kelly at headquarters offices, 806 Balboa Building, San Francisco.

PRELIMINARY REPORT OF THE COMMITTEE ON DISTRICTING

INTRODUCTORY NOTE

The Committee on Districting the United States, appointed at the last annual session of the House of Delegates, publishes the following preliminary report at this time in order that the questions involved may be considered by all bodies and individuals interested, and that delegates may ascertain the views of their state societies before the next annual session.

It should be borne in mind that the report embodies the opinion of the committee at the present time, and that this opinion may be modified or entirely changed by further information that may be received before the report is submitted.

The committee requests all interested in the question, whether official or individual members of any of the societies involved, to express their views freely, on any or all of the points at issue, and to make further suggestions that may occur to them.

All communications should be addressed to:

ROCK SLEYSTER, M.D.,
Wauwatosa, Wis.

Preliminary Report of the Committee

To the Members of the House of Delegates of the American Medical Association:

At the last annual session, the President appointed your special committee to consider the division of our membership into several districts. The appointment was authorized by the House of Delegates following its recommendation by the Reference Committee on Reports of Officers, in response to the following suggestion contained in the address of the President, Dr. Work, to the House of Delegates:

> You will recall that the districting of the United States for the allocation of trustees has been twice before you. To the segregating of the United States into groups, in the interests of the Association and its members, I am wholly committed. Within recent years several medical societies have been organized designated by valleys, numbers of states or other distinguishing and limiting titles. The very formation of such medical associations is evidence of their necessity to physicians of localities and to their medical progress.
>
> Different sections of the United States have local disease problems requiring special discussion; of little interest to physicians of the United States as a whole, and, too, physicians need wider personal contact than is now possible from the annual meetings of the American Medical Association or its special societies.
>
> The long travel and time necessary for most of our membership to attend the annual meetings of the Association are prohibitive, and its great membership would otherwise make a general assembly impossible.
>
> I am convinced that in the interests of our membership the United States should be divided into several districts, as you may determine, and that each district, in addition to electing a trustee of the Association, should regard itself as an active section of it.
>
> The officers and organization of these subdivisions should, of course, be governed by uniformity, precisely as state societies now are. They could meet in midwinter for discussion of their local problems, together with suggestions and policies to be recommended to the American Medical Association at its annual meeting.
>
> The parent association could do the necessary printing and advertising, so that the expenses of organization usually incurred would be thus avoided. This is a time of decentralization rather than concentration of initiating officials; of expanding units rather than carrying dependencies and helpless in themselves. I continue to believe that each section should nominate to the House of Delegates its choice for a president-elect, such nomination to be suggestive, and not obligating.

The suggestion of districting the county is not a new one, and before taking up the results of the present study of the question, it will be fitting and illuminating to give a brief summary of previous opinions and reports on the subjects.

The Committee on Reorganization of the American Medical Association many years ago considered the advisability of creating semi-national branches or districts of the Association, about five in number, the annual meeting of these districts to be at a time decided on by the individual district but not within three months of the meeting of the American Medical Association.

This committee considered that the various small independent districts, like some of the tristate societies, were in general a detriment to medical organization. It also expressed the opinion that the formation of several districts might be desirable, if it could be arranged without conflicting with the work of the state associations.

The committee considered the plan worthy of future consideration, but not practicable at that time.

A Committee on Branch Associations recommended to the House of Delegates at the Atlantic City Session in 1904 that "permission be given for the creation of seven branches, at the discretion of the governing authorities of the state associations composing them, so arranged as to cover the entire country."

With this report, a form of constitution and by-laws for such branches was submitted which provided that "membership in the branch association shall be voluntary . . . but that no one shall be eligible who is not a member in good standing of his own county and state associations."

The committee further recommended that branches hold meetings in the fall, in conjunction with the annual meeting of one of the component state associations.

This report was referred to the Committee on Miscellaneous Business, which committee suggested some minor changes in names of the proposed districts, and in the plan of organization, and recommended the adoption of the report.

This report of the Committee on Miscellaneous Business was referred back to the Committee on Branch Associations with directions to report further at the next meeting.

In 1907, at the Atlantic City Session, the Committee on Branch Associations submitted its second report, which differed in no essential point from that previously presented.

This report was referred to the Committee on Reports of Officers, which recommended "that the report on branch associations be referred to the state association by the General Secretary, with an urgent request for an expression of their views, to be presented to this Association at the next annual meeting." This recommendation was adopted by the House of Delegates.

The Report on Branch Associations at the Chicago session in 1908 gave the results of bringing the matter to the attention of the state associations. All of the state secretaries were asked to bring the matter before the annual meetings of their associations, and to report the action of their state associations.

The result was: acknowledgement of receipt of letter by thirty-four state secretaries; two associations voted in favor of plan, seven against it, and twenty-five took no action.

From this time, 1908, till 1920, the question appears to have been given no attention.

In 1920, following a suggestion made by the Speaker, Dr. Work, the Committee on Reports of Officers stated that "his suggestion that it might be advisable to reduce the number of trustees to seven or five members and subdivide the United States into trustee districts, is worthy of serious consideration," and recommended "serious consideration by the House at the next annual session, and that the matter be at once referred to the Judicial Council, in order that it may report a concrete proposition at the next session."

This recommendation was adopted, and the Judicial Council was requested to report a concrete proposition or plan for reducing the number of trustees from nine to seven, and to subdivide the United States jnto seven Trustee Districts.

At the Boston Session in 1921, the Judicial Council presented such a plan, with the statement that it was "not as a recommendation from the Judicial Council, but in response to the action taken by the House of Delegates requesting the Judicial Council to submit a plan which will effect the change provided the House deem it advisable to do so."

This report of the Judicial Council was referred to the Committee on Constitution and By-Laws.

This committee reported that it "was not prepared to offer any definite recommendations on that part of the Judicial Council dealing with the change in number of the Board of Trustees and the formation of seven trustee districts. Your committee believes, however, that there is much to be said in favor of the plan and that it should receive careful consideration, throughout the year and at next year's session of the House."

The committee recommended "that this be referred back to the Judicial Council" which should be directed to "report back on the subject to the next House."

This brings the subject of districting down to the date of Dr. Work's recommendation of last year, quoted at the beginning of this report.

The only positive and definite statement that your committee has been able to extract from the history of the project of districting the United States is that of Dr. Work, made last year at St. Louis: "To the segregating of the United States into groups in the interests of the Association and its members, I am wholly committed."

The rest is a history of lack of definite opinions, postponement, indecision and passing the question back and forth from one committee to another.

The question has been once or more times before the Committees on Organization; on Branch Associations; on Miscellaneous Business; on Reports of Officers, and on Amendments to the Constitution and By-Laws, and before the Judicial Council and the state associations.

In 1908, two states were in favor of districting, seven against it; the rest noncommittal.

Some of the recommendations of the various committees which have considered it can easily be summarized in their own words as follows:

The plan "is worthy of future consideration."

We recommend that the committee "report further at the next meeting."

The plan "is worthy of serious consideration."

We recommend "serious consideration at the next annual session."

We recommend that the Committee "report a concrete proposition at its next annual session."

We are "not prepared to offer any definite recommendation."

The committee "believes there is much to be said in favor of the plan, and that it should receive careful consideration at the next annual session."

With this history before us, your committee has attempted to secure as wide expression of opinion on the question as possible, in the hope that it might break the precedent of indecision.

Your committee has endeavored to secure opinion on the plan from every state in the Union. The matter was brought up for discussion at the annual meeting of the state secretaries held in Chicago last November, and again at the conference of section secretaries and the Council on Scientific Assembly. In addition to this, letters have been addressed to the secretaries of all state medical societies and to other physicians in various parts of the United States who have shown an interest and familiarity with organization matters.

It develops that there is much misunderstanding regarding Dr. Work's proposal, and some division of opinion regarding it. Though the majority of the correspondence has indicated a disinclination to accept a proposal for the creation of new medical societies, the most active opposition seems to come from the South, and at an informal conference of presidents and secretaries of the state associations comprising the territory of the Southern Medical Association in conjunction with state health officers of the same states, the following resolutions were adopted after discussion of the subject:

WHEREAS, It has been suggested by Dr. Hubert Work, the recently retiring President of the American Medical Association, that the territory comprising the said American Medical Association be divided into districts composed of appropriately grouped state medical associations, and that regional medical societies be organized to cover, with the definite object of discussing such scientific problems as they may choose and which may be of regional importance of electing trustees of the American Medical Association and making recommendations for suitable material for President-Elect of the American Medical Association, and

WHEREAS, The matter is to be discussed by the conference of state secretaries to be held in Chicago, November 17 and 18, and

WHEREAS, It is believed that the formation of such regional societies in the manner recommended and for the purpose stated would be of no advantage to the Southern states; rather, it is believed that such procedure would be detrimental not only to the Southern states but to organized medicine in general, therefore be it

Resolved, That the presidents and secretaries of state medical associations, and the public health officials of the sixteen Southern states comprising the territory of the Southern Medical Association as at present organized, go on record as opposing such project, and be it further

Resolved, That copies of these resolutions be forwarded to the committee of the American Medical Association appointed to consider and report upon the proposal, and a copy referred to the conference of state secretaries above referred to and to other sectional medical organizations throughout the United States for the information of all concerned.

The correspondence brings out a variety of reasoning for and against the plan. Among the reasons advanced for the proposition may be mentioned the following:

1. The plan would allow of a more representative selection of trustees, providing such district associations elect or nominate a trustee.
2. It would allow of a closer union of the profession.
3. Many physicians who cannot afford to attend meetings of the A. M. A. held at a great distance could attend sectional meetings.
4. It would multiply opportunities to read papers.
5. It should bring present independent organizations into the general scheme of organization of the A. M. A.

Among reasons advanced against the plan we find the following:

1. It would detract from the A. M. A. meetings.
2. There is a danger in the plan of intensifying sectional feeling.
3. It would certainly detract from meetings of the various state medical societies.
4. We are at present overburdened with medical societies and physicians are unable to attend the meetings now held.
5. It would possibly encourage political manipulation.
6. It would incur the antagonism of present district societies.
7. All our efforts should be directed to the betterment of present societies and not the creation of new ones.
8. It would create too many new problems.
9. It might create rivalry among the states, the smaller ones in the group being overshadowed.
10. There are no common problems by virtue of regional location.
11. There would be a danger of its affecting the scientific assembly of both the state medical societies and the A. M. A.

SUMMARY

From the preceding account of the history and present expressions in regard to the different plans which have been proposed for the formation of district associations, it is perfectly evident that there has been and still is almost no definite opinion as to what object the formation of districts would fulfil, and there has been brought forward no concrete plan for the formation of districts.

In the review of the suggestions and projects three objectives are apparent:

1. Districting for the purpose of election of trustees, one trustee to be elected from each district. For this purpose not more than nine districts would be possible, for there seems to be no difference of opinion in regard to the wisdom of keeping the membership of the Board of Trustees within that number.

2. Districting for the purpose of business and administrative purposes, with the view that such district organizations would supplement the work both of the American Medical Association and of the state associations.

3. Districting for the purpose of scientific and clinical meetings.

DISCUSSION OF THE DIFFERENT PURPOSES OF PROPOSED DISTRICTING

If districting is to be done for the purpose of the election of trustees, it will be necessary to combine as far as possible geographic distribution of the several states with the numerical distribution of the American Medical Association membership.

This perhaps might be done satisfactorily for the election of trustees alone. Such districts would be entirely impossible in most parts of the country for business and administrative purposes, because of the large and widely scattered areas which would of necessity be included in some of the districts, and because of the widely different problems which would be presented by various parts of the same district.

The committee is of the opinion, which it believes is the opinion of the large majority of members of the Association, that the business and administrative problems can be better handled by the existing organization than by the proposed district associations.

Districts formed for the election of trustees would be still less possible for scientific and clinical meetings than for business and administrative purposes.

For satisfactory clinical and scientific district meetings, the area covered by a district must be small enough to permit of comparatively easy access to centers at which meetings might be held.

The committee believes that there is the feeling of a need for district scientific and clinical meetings in some parts of the country, as is shown by the existence of flourishing independent district organizations and by projects for the formation of similar organizations in other parts of the country.

The committee believes that some of the independent district associations now existing are well fulfilling the functions that a district association of the American Medical Association might be expected to fulfil. It also believes that

any attempt immediately to form district associations of the American Medical Association in these localities at the present time would meet strong opposition, and would be inadvisable.

As the purposes and aims of the independent district associations are largely the same as those of the American Medical Association it seems possible that it might be of advantage to both to unite or become closely affiliated.

RECOMMENDATIONS

1. The committee makes no recommendation in regard to districting for the purpose of election of trustees for two reasons:

First, because it feels that the districting for this purpose cannot at present be successfully combined with the other proposed purposes for district formation, but must be considered as a separate problem.

Second, because the Board of Trustees is to present a report on this problem which will bring the question in all its phases to the attention of the House of Delegates.

2. The committee recommends that the project for districting for business and administrative purposes be abandoned as impracticable, believing that energy directed in this direction can be expended to more advantage through perfecting the functioning of the existing parent and component organizations.

3. The committee recommends that no attempt be made to organize districts for scientific and clinical meetings, believing that for success, the feeling of need of such organizations, and the initiation of their formation, should come from the localities concerned.

The committee further recommends that the Board of Trustees take steps to ascertain from the existing district organizations whether it would not be possible and profitable to all concerned to become more closely affiliated.

The aims and membership of the American Medical Association and of the district associations now existing are practically the same, and there should be no conflicting interests. If it should appear that both organizations could be benefited by affiliation, there should be no difficulty in making mutually satisfactory arrangements.

4. We also recommend that the Board of Trustees take similar means to get in touch with the organizers of new district associations.

The committee feels that, if districting seems advisable, it is likely to succeed best by gradual development along these lines, without limitation of number or size of districts.

L. H. McKINNIE, Chairman,
JOHN E. LANE, ROCK SLEYSTER,

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE, PUBLIC HEALTH AND HOSPITALS

Held in Chicago, March 5, 6 and 7, 1923

(Continued from page 1080)

WEDNESDAY, MARCH 7—MORNING

DR. VICTOR C. VAUGHAN, Chairman, Council on Health and Public Instruction, in the Chair

ORGANIZATION OF THE PUBLIC FOR COOPERATION WITH THE MEDICAL PROFESSION

Hygeia: A Journal of Individual and Community Health

DR. VICTOR C. VAUGHAN, Chicago, presented a brief statement of the scope and purpose of this journal.

The Medical Profession and the Laity

FROM THE STANDPOINT OF THE EDUCATOR

WILLIAM B. OWEN, President, National Education Association, Chicago: A joint committee on health problems in education was appointed about a decade ago made up of representatives of the American Medical Association and the National Education Association. It has published a number of fundamental and simple documents on health problems in the schools which have been distributed to the extent of hundreds of thousands, and they have been used by school people everywhere. Last year, after six years of cooperation in the publication of these documents on health, it seemed important that we should undertake a new project in education, making an attempt to put the committee's work on a new basis. We said to ourselves that the school people are now going to be very much interested in the problem of health. A few years ago a committee of the National Education Association had to deal with a number of fundamental aids we should attempt to achieve in secondary education, and public health was the first. A document called "Cardinal Principles in Secondary Education" was published by the United States Bureau of Education.

The development of the high school in America is of enormous import, and the speed with which it is developing almost takes one's breath away. About five years ago Chicago had 11,000 high school students, while today it has 50,000. We have had 8,000 new high school students added in one year. The growth in building and the cost of the whole plant are attracting the attention of the public; this means that opportunities for education in regard to health are very rapidly increasing. Ten years ago, and for a period of sixty years, the National Education Association had a membership of only 10,000 or 12,000. At present it has a membership of 120,000, and judging from its rapid growth, we shall soon have a membership of from 300,000 to 500,000. Two carefully organized committees have taken up the whole question of teaching, including the organization, the administration, and the methods of conducting our public schools. Last year our joint committee with the American Medical Association formulated a health program for the public schools from the kindergarten up through the high school. There is a great deal of medical knowledge and general scientific knowledge that is not in possession of the people in our schools. This committee, when it makes out its program, will be in a position to tell the people in the schools not only that it has been tested only by the best people in the medical and scientific professions, so far as facts or principles are concerned, but also that it has been subjected to the critique of competent people who know schools and children.

Dr. Thomas Wood, the chairman of the committee, has consulted with members of your profession and of ours. We have also a number of subordinate committees dealing with such things as physiology and nutrition, and the different aspects of health control. Dr. Wood has also been put in charge of child hygiene. We shall try in the schools to establish definite habits of health, with a checking system of some form to find out whether people really do what they are taught to do, and we shall not attempt to teach them at all what we cannot teach them to do.

FROM THE STANDPOINT OF THE HEALTH OFFICER

DR. W. S. RANKIN, Raleigh, N. C.: The health officer occupies a strategic position for observing the relation of the public and the profession. He stands midway between the two. If he has a normal binocular vision, he will observe the interests of the public and the profession as a single object. The health officer sees a field of unsupplied medical needs which is from three to five times as large as that which is supplied. He sees 2,750,000 women confined annually in the United States, and 750,000, or 30 per cent., of them, without medical attendance. He sees them inadequately attended during their puerperium, receiving on an average three or four visits whereas they should have ten or twelve, and as a result he sees unnumbered abortions, miscarriages, premature labors and other complications of pregnancy, and accidents of delivery with injuries and infections, with retarded and abnormal lying-in periods. In short, he sees countless women impaired for the functioning of motherhood, and for the efficient discharge of those domestic duties on which is dependent, to a large extent, the health of the infant and that of the family. From damaged motherhood how short the step to impaired infancy! The health officer sees, as a result of the neglect of motherhood, a large percentage of the 1,500,000 cases of diarrhea and enteritis which annually affect our 5,000,000 infant population; he sees early childhood with 700,000 cases annually of the common communicable diseases; he sees, closely related to impaired motherhood, and abnormal and diseased infancy, the great problem of malnutrition, involving, according to the lowest estimate,

2,000,000 or, according to the highest estimate, 4,000,000 public school children in this country. He sees the common defects of childhood, for which, according to Emerson, malnutrition is 80 per cent. responsible. The common defects involve 1,000,000 public school children who suffer from diseased tonsils and adenoids, 4,000,000 who have visual defects, and 15,000,000 who need dental treatment, all of them retarded and retarding the school machinery of this country.

The health officer observes 2,000,000 fresh cases of venereal disease occurring annually in adolescence, added to the tremendous carry-over of old cases and complications from previous years. He finds that these diseases and their complications are not receiving one-fifth the treatment they should have. Finally, he understands that when medicine has gained control, to a reasonably adequate degree, over the pathologic phases of life, then it will be time for the profession to begin to consider the yet larger opportunity for service—the opportunity that relates itself, not to the small percentage of the population that is obviously diseased, but to the larger percentage that is apparently well. To make the unfit fit is a worthy task, but to make the fit fitter is a larger and a higher achievement. The dentist, the pediatrician and the industrial hygienist are already pioneering in this new and larger field of medicine, the field of health promotion as contrasted with that of disease prevention.

The health officer sees a great opportunity in reducing the enormous existing surplus of disease, and he sees an even greater opportunity in the possibilities of health promotion. The solution of this great problem of disease and health calls for two things: (1) scientific knowledge and (2) social action. The medical profession is long on the one and short on the other.

The National Committee on Public Policy should nominate to the President of the Association the members of the Council on Health and Public Instruction, which the President in turn should nominate to the House of Delegates. The Council on Health and Public Instruction should be adequately provided in budget and personnel to assume the active executive work of the National Committee on Public Policy.

FROM THE STANDPOINT OF THE BOARD OF TRUSTEES OF THE AMERICAN MEDICAL ASSOCIATION

DR. FRANK BILLINGS, Chicago: Organized medicine has done much to improve the relations of the medical profession to the public by the elevation of professional standards. There is no other profession which, of its own initiative, has attempted to benefit the public by elevating its own standards of education and practice as has the American Medical Association through its Council on Medical Education and Hospitals. Since the medical profession has lifted itself by its own boot straps to its present standard of medical education, we can trust the profession to correct the errors in medical teaching and improve it still more. The Council on Medical Education and Hospitals has lately considered also the professional advancement of graduate or postgraduate instruction. More will be done in this regard.

The American Medical Association is still further improving the status of the profession through the Council on Pharmacy and Chemistry by the investigation it has made of proprietary medicines, nostrums of various kinds, the advice it has given and the information it has furnished to the members of the medical profession, and the influence it has had on the Congress of the United States in the promotion and final adoption of the pure food bill—a matter of enormous benefit not only to the profession but also to the public.

As to health activities, through the Council on Health and Public Instruction the American Medical Association has undertaken a policy of cooperation with existing institutions. You have heard from President Owen of our relationship to their committees, particularly the committee of which Dr. Wood is chairman, regarding the survey and attempts made to improve the rural schools and rural school children, the federations of teachers of schools to improve the health conditions, etc.

At one time the Council on Health and Public Instruction had charge of federal legislation in the various states, the purpose being to prevent or arouse moral sense against the passage of laws which were inimical to the best interests of the public. I need only to call your attention to two bills to prevent animal experimentation which the so-called anti-vivisectionists have brought before Congress and various state legislatures, and through a subcommittee of the Council on Health and Public Instruction, of which Dr. Cannon is chairman, much work has been done to educate, not only the medical profession, but also the public, as to the perniciousness of these bills which, if passed, will prevent animal experimentation. We have established at headquarters a medicolegal and legislative bureau, with a director in charge, for the purpose of preventing the passage of such objectionable bills.

Few states have the proper kind of medical practice acts. Some of them are antiquated and do not meet the needs of modern conditions. Attempts were made to formulate medical practice acts that were not uniform in character in the various states with the hope that they would be enacted. This was attempted about fifteen years ago, but because of incomplete organization was not realized. There is hope now, with Dr. Woodward as director of this bureau, that something may be brought about by cooperation with the various legislative committees of the constituent state organizations. The main principle of such action would be that we should demand and make the legislators believe that all who take the responsibility of the care of the sick and injured should have the same educational requirements.

Dr. Vaughan has told you about *Hygeia*, a journal which will go to the public and members of the medical profession in the attempt to educate the public along scientific lines. It is going to be far reaching and helpful because through this medium we ought to make the members of the public acquainted with the causes and means of prevention of disease and rational methods of treatment.

Through the Council on Health and Public Instruction, the House of Delegates has approved taking up periodic health examinations, and a blank form has been prepared with the hope that societies will establish the opportunity for the people to go to them and through groups of physicians have periodic health examinations made, not gratuitously, excepting for the poor, as persons who are able to pay should pay for the fee charged.

Relation of Organized Women to the Medical Profession

DR. LENNA L. MEANES, Des Moines, Iowa: University women, women from our crowded industrial centers, women from the rural districts, professional women, all reacted to the reproach carried in the recent revelations of America's low health status and, with practically one accord, started to remove the cause. They have been at work since about 1910, when the measuring and weighing of babies began and revealed the possibilities of developing, in spite of inherited tendencies, of family traits, of environment, etc., a tremendously stronger physical life for the children of America. Impetus was gained practically every year. The disgrace of our high infant mortality and the leveling blow of the results of the war draft examination have struck women keenly, for every individual woman knows that the responsibility of the health of her family largely rests on her. Nothing can get so quick a response from a normal woman as an intimation that a member of her family is below par physically because of remediable defects. She feels that she has been found asleep at the switch of her particular station, and loses no time in assembling wits and joining forces with others to redeem herself and the trust which she feels is particularly hers. This keen incentive has brought about the insistent demand these women are making of us as a medical profession today. The encouraging feature is that the demand is for intelligent cooperation backed by an enormous machinery which can render cooperation effective.

The representative women's clubs and leagues have a combined membership of ten million, in round numbers. Out of these clubs three have health committees with activities which always include some phase of child welfare, of adult health and of general community betterment along the lines of sanitation, protection from contagion, housing, etc. The General Federation of Women's Clubs, with a membership of 2,000,000, and the Women's Christian Temperance Union, with a membership of 650,000, have state and local committees working

under the national committee. The Council of Jewish Women, with a membership of 48,000, has sectional chairmen working under the national chairman in 204 cities of the United States. In addition to these three, the National Board of the Young Women's Christian Association has a bureau of social education, with subsidiary activities in local associations throughout the United States. These usually include a physician, a director of physical education and a well equipped gymnasium. The remaining leading organizations ally themselves with any constructive health work as they are appealed to, or as the demand arises from existing conditions.

If the organized women of America could speak with one voice to you today, they would say: "We are here, ready for cooperation with you for health." Now and then in the past some of these organizations may have presented programs which left us rather vague as to the aims to be accomplished. But those times are over. The present is recording a different story for them, particularly in regard to their health activities. Already they are working directly with other agencies, such as the National Playground Association, federal and state boards of health, home demonstration agents, and each of the volunteer health organizations.

The women are watching keenly our attitude on the side of constructive health building. If we are to have health, we must have the concerted organized medical profession, state and federal health agencies, national and state volunteer agencies, on the one side to furnish authoritative background, advice and machinery, while on the other are the women's organizations for creating public opinion, distributing educational propaganda, establishing contacts, etc. We shall also have to take into consideration in that relationship what we can do, what we are willing to do with regard to the emphasis placed on the positive phase of health in the programs these women are studying all over the country. The immediate concrete demand from them is for health examinations. That demand is bound to increase, as these programs develop, and to become more exacting in what that examination comprises. They are already able to detect the general difference between a good medical and a good health examination. They are also becoming aware that the physicians giving these examinations must have an adequate understanding of fundamental health habits, of the necessary factors that go to make up the proper home and working conditions, of the value of recreation, and of the necessity of community interests to round out one's well-being. The door of a new opportunity is opened to the medical profession. Already there are a few in many communities who can and do give good health examinations. Others must join the procession. We know perfectly well that one good pediatrician in a community forces others of the same line to do better work. People seek the best in the medical profession as in everything else. What is true of specialists in other lines will be true of those excelling in health examinations: they will serve to increase both number and quality of other physicians in the community.

Report of American Social Hygiene Association on Medical Researches in Venereal Diseases

DR. R. V. HOFFMAN, South Bend, Ind.: Medical research, cooperatively conducted, constitutes what may be regarded as the most widespread, intensive undertaking ever attempted by American medical institutions for improving the treatment of the sick. Certain of these researches have attained their maximum development, through their natural outgrowth. Some assistance and cooperation from without would aid others to extend their earlier investigations, along lines which had opened up promising leads. Congress failed to make appropriations for the completion of these researches, presumably owing to its postwar economic retrenchment policy. Recognizing the future worth of the more promising of those researches, the American Social Hygiene Association agreed to set aside jointly with the government a small sum of money to be used in "an attempt to evaluate the results developed from the scientific researches on venereal disease problems which are now being carried on in this country." It was inadvisable for the association to launch its program until after the close of the interdepartmental board's administration, June 30, 1922, as duplication of activities might have resulted otherwise. The field program of the association embraces the following activities: (1) visits to clinics and laboratories in which medical researches in the venereal diseases are being carried on, for the purpose of securing information as to results achieved; (2) development of an interlaboratory and clinic information service covering new and important facts that are relevant; (3) stimulation of new researches; (4) encouragement of clinical tests for the evaluation of laboratory discoveries, and (5) establishment of a more permanent scientific research program. Two representatives of the association are now engaged in visiting twenty-five research institutions. In addition to the researches begun under grants from the government, other prominent independently conducted venereal disease investigations are being studied. The reports of these surveys are to be presented to the association's advisory committee for medical research on the venereal diseases, for its consideration and recommendation.

DISCUSSION

DR. A. C. ABBOTT, Philadelphia: Never before have I seen the obligation of the medical profession to the question of public health more clearly indicated than has been indicated in the symposium this morning. Never before have I seen a more suggestive symposium on the subject than the one outlined in this program. Never before have I seen the chance for the medical profession assuming leadership more clearly than I saw it this morning. The president of the National Education Association has outlined a program of instruction, beginning with children in the lowest grade school and following along graded instruction in health up to the time they leave the high schools or normal schools, and I am glad to see that instruction is now going to be carried into the academic institutions for all freshmen in attendance at these institutions. Does any one for a moment think that this generation, when it comes on the scene, will not demand leadership of some kind, organization of some kind in this matter that comes so close to daily life, comfort and happiness? Ten million intelligent women in this country are waiting for some one to tell them what to do. If the medical profession does not embrace that opportunity, the layman is going to do it. The intelligent layman is taking great interest in this matter.

DR. WALTER B. CANNON, Boston: I have been impressed by the importance of one part of the name of this journal—"a journal of individual and community health." We have emphasized community health, and we have not emphasized as much as we might the question of individual health. After all, to a very large extent the question of community health comes down to a question of individual health. A professor in Harvard University, some years ago, thought it would be a good scheme if he had his own cow, a clean barn, sterile stools, sterile aprons, and various other arrangements so that his children might have pure milk. One of his children came in one day and asked the question: "Say, father, why is it just before Jim begins to milk he spits on his hands?" All sorts of provisions can be made, but if the individual is not well acquainted with the method he is using, he cannot give us what we are expecting to get. That is what we are confronted with in this work for community health. We have to educate the individual in order to promote the welfare of the community. I believe the publication of this journal is going to result in a greatly increased intelligence among our schoolchildren and among the women of the country so far as individual health is concerned. We have been training men for generations to take care of sick people. We like to do the things we have been trained to do. We prepare our students to take care of the sick, and to recognize sickness when it has developed, but we have not been training them to take care of the well and to see that the well keep well. As a medical profession we realize that a very large proportion of the population are not in first class condition; it is the duty of the medical profession to see that they are, and this program of positive health is one which the medical profession has to recognize and to help bring about. We

have not trained our students to see the first signs of disease. We teach students about cases in hospitals that are well developed, but they have not an opportunity to see the beginnings of disease. They have not been trained at all in the slight defects which make people below par. I want to commend to the whole profession the attitude which has been taken by the Women's Foundation of Health.

DR. HAVEN EMERSON, New York: We have prepared a form for the periodic health examination of adults as elaborated by various groups in New York and elsewhere, and they are following admirably the bulletin recently issued by the Surgeon-General of the Army. The conflict in this project, as with all other projects, has been that we were dealing with people variously educated. There is a want of balance between what the leaders think is the limit of possibility of physical examinations and the rank and file who say we have gone away beyond the practical possibilities. We have prepared a form of questions for the average housewife, the father of the family, and the worker of adult years. The questions include certain matters that are criticized as being social in their implication, but they were intentionally put in since it is important to know whether persons are happy in their work, whether they are well occupied, and whether they have reasonably congenial homes. These questions are as important as a knowledge of their bodily functions.

The proposed physical examination has been boiled down to what we believe is the minimum, at the same time keeping faith with the patient, because if we are going to allow ourselves as physicians to make as incomplete examinations as patients will stand for, we are not going to bring credit to the project or to the profession. The physical examination we propose is one which we believe any physician ought to be able to make with his own special senses without the aid of group diagnosticians or elaborate technical roentgen-ray aids or laboratory service. The form has been submitted to the committee and to the secretaries of state medical societies. They have made constructive suggestions for improvement, and within the next two weeks the final text will be in the hands of the members of the American Medical Association. It is hoped that this will focus attention on the proposition Dr. Rankin has put before you. If each county and state medical society believe in making such periodic examinations of all people with whom they come in contact as an annual job, we shall have to put into practice the principles which we have expressed here today, and I trust this will add to the respect of the laity for the capacity of physicians to make examinations of people in health, and when they have made these examinations know what advice to give them on such simple matters as lack of sleep, insufficient bowel movements, lack of relationship of rest and recreation to work. If physicians do not know how to give that advice when they make an examination, the laity will lose interest in it very shortly.

DR. MILTON BOARD, Louisville, Ky.: Venereal disease control rests on a tripod: education, treatment, law enforcement. Of the three, the most effective and most important is law enforcement. When we had a war in this country and military camps, we got somewhere. When the war was over and the camps were abolished, the records show that law enforcement was abated, and society has suffered in consequence. The seed sown during the war has not brought forth the fruit it might have done, owing to the fact that no organized arm of the government took up the work in an effective military manner as during the war. What is the result? I deny the right of existence of a commercial prostitute anywhere. We should go back to where we left off during the war, and educate our state boards of health along the line of rigid, unrelenting law enforcement.

JOSEPH F. SILER, M.D., Washington, D. C.: Although our work is confined to a restricted class of the population, the problems we have to meet are similar to those that have to be solved in civil practice. We in the army are trying to do something along the line of preventive medicine to advance the steps we are trying to take. One hundred years ago, the death rate in the army was between 20 and 30 per thousand per annum. Today it ranges around 5 per thousand per annum. This reduction in mortality has been accomplished by education and by improved methods of prevention referred to by Dr. Vaughan. Typhoid fever is practically nonexistent in the army today. The same is true of smallpox. After a war, normal conditions are disturbed and it takes years for them to return to normal. The venereal disease rate rose enormously during the Civil War and the Spanish-American War, and it took fifteen years to put it back on a prewar basis, or to normal. Since the war we have endeavored to place the responsibility for venereal disease very largely on the company commanders, so that our venereal disease rate now is 65 per thousand per annum instead of 150 per thousand per annum three years ago. In preventive medicine we have for many years resorted to education by lectures, practical demonstrations, etc., and this instruction is carried throughout the life of the officers. At West Point, definite hours of instruction are laid down for it. The same education applies to medical officers in our own medical training schools. About two years ago, the Surgeon-General directed me to emphasize the importance of periodic examinations so far as officers are concerned. Tests of physical efficiency were undertaken largely for the purpose of determining whether an officer was fit to perform his duties. These tests were preceded and followed by physical examinations.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

"M.D." Instead of "Dr."—At meetings of the Placer, Riverside, and other county medical societies, resolutions were recently passed recommending to the state medical society that the letters, "M.D.," instead of the title "Dr.," be used on all their literature, cards, and signs, in order to distinguish between cultists and regular doctors of medicine.

Hospitals Accredited by the American Medical Association.—The French Hospital, and the Franklin Hospital, San Francisco, and the Fabiolo Hospital, Oakland, have been placed on the list of hospitals giving acceptable instruction to interns, by the Council on Medical Education and Hospitals of the American Medical Association.

DISTRICT OF COLUMBIA

Personal.—Dr. Walter W. King, surgeon, U. S. Public Health Service, Washington, has been directed to proceed to Hull, England, to attend the Congress of the Royal Sanitary Institute, July 30.——Dr. William J. French, Washington, has been chosen director of the first demonstration of the child health committee under the Commonwealth Fund appropriation, to be held in Fargo, N. D.

ILLINOIS

Venereal Disease and Divorce.—The Mason bill, which makes it possible for either husband or wife to obtain a divorce if the other is infected with venereal disease, was passed by the state senate, April 11, by a vote of 29 to 11.

Physician Sentenced.—According to reports, Dr. John Gore Massie, Belleville, was sentenced to serve from one to ten years in the Southern Illinois Penitentiary at Chester, April 5, for operating a confidence game in oil stock. Judge Crow denied Dr. Massie's motion for a new trial.

Physicians' Licenses to Be Revoked.—Hearings began April 13, before the medical committee of the department of registration and education, for the revocation of all physicians' and pharmacists' licenses illegally issued under the term of W. H. H. Miller, former director of the department. Miller was convicted, January 28, of selling physicians' and pharmacists' licenses, raising examination grades, and selling questions in advance of state examinations. It is believed that more than 100 physicians and druggists in Illinois will lose their licenses.

Radical Public Health Bills.—Three bills that would radically affect public health service in Illinois were introduced, March 8, in the lower branch of the general assembly. House Bill No. 306 requires a health official to cause an impartial investigation by a reputable sanitary engineer to be made of persons and places to be quarantined, the approval of the physician in charge being procured before the quarantine order is issued. House Bill No. 307 provides that any one professionally educated to be a physician shall be ineligible to be a health officer in the state or any of its political subdivisions. House Bill No. 308 provides that the quarantine regulations applicable to persons afflicted with smallpox shall apply to persons vaccinated against that disease. The three bills were referred to the committee on judiciary, given a hearing and reported back to the house with recommendation that they do not pass.

Chicago

Practitioner Sentenced.—Juan Frederick Derrick, colored, found guilty of practicing medicine without a license by Judge O'Connell, was sentenced to the house of correction for ten months and fined $100, it is reported.

Book Store Features Public Health Book Week.—A. C. McClurg and Company, Chicago, has announced the featuring of books on health for the public during the week April 23-28. Special days have been set apart for books about babies, children, diet, and books for schools. *Hygeia,* the journal of individual and community health, published by the American Medical Association, will be especially represented.

Control of Midwives Proposed.—At a meeting of the Chicago Women's Club and the Illinois Society for the Prevention of Blindness, April 2, a committee was appointed to propose an amendment to the new state medical practice act that would require all midwives to have at least one year of high school training; from six months to a year of special training in midwifery; registration at the city health department, and submission to inspection of their work at any time by the health department. Drs. Frank Cary, J. B. DeLee, Lena K. Sadler and Effa V. Davis comprise the committee.

INDIANA

Indian "Doctor" Fined.—It is reported that Frank DeKay, Kendallville, known as the Indian "doctor," pleaded guilty to practicing medicine without a license, March 17, and was fined $25 and costs.

Reception for Dr. Edenharter.—The Indianapolis Medical Society at its regular meeting, May 1, will give a reception to Dr. George F. Edenharter, Indianapolis, in honor of the completion of his thirtieth year as superintendent of the Central Indiana Hospital for the Insane.

Medical Society Wins Against Family Contract Practice.—As a result of representations made by the Tippecanoe County Medical Society, the Fraternal Order of Eagles has agreed to dispense with the services of a fraternal physician and to discontinue contract practice for the members of the order on Jan. 1, 1924. The medical society will recommend to the hospitals of the community that pending the discontinuance of such services and of contract practice the present fraternal physician be allowed such hospital privileges as are extended to members of the society.

LOUISIANA

Dr. Pothier to Latin America.—Dr. Oliver L. Pothier, New Orleans, has gone to Colombia, South America, for the Rockefeller Foundation to study an epidemic of fever which has recently appeared in Bucaramanga. Dr. Pothier is professor of pathology and bacteriology at Loyola Post-Graduate School of Medicine, New Orleans.

Dairymen Oppose Tuberculin Test.—According to a report from the superintendent of public health, open warfare is being waged between the New Orleans Board of Health and the Dairymen's Association. Many owners of large herds have refused to submit their cows for tuberculin testing, in defiance of the published order of the board. Fourteen dairies who submitted to the test were found to have fifty-three reactors and thirteen suspicious cases out of 346 cows tested.

Chaulmoogra Trees to Be Grown in Louisiana.—According to a statement by Major O. E. Denney, U. S. Public Health Service, in charge of the leper colony at Carville, large quantities of chaulmoogra (*Taraktogenos kurzii* King) trees will be planted in Louisiana in order to supply the world with chaulmoogra oil for the treatment of leprosy. Planting will be started this spring. Five patients have been paroled from Carville, as apparently cured, during the last year, following chaulmoogra oil treatment.

MICHIGAN

Wayne County Fights Chiropractors.—A telegram was sent by the Wayne County Medical Society to each member of the lower house of the legislature, April 2, asking him to vote against House Bill No. 77, which would license chiropractors and recognize chiropractic as a profession. The members of the society also decided to send out 3,000 postal cards asking friends to exert their influence against the bill.

MINNESOTA

Donation for Cancer Institute.—The sum of $250,000 has been donated to the University of Minnesota College of Medicine, Minneapolis, by Mrs. George C. Christian to establish a cancer institute.

MISSOURI

Physician's License Revoked.—The license of Dr. Leon Hurwitz, Joplin, was revoked for fifteen years by the state board of health, April 6. It is reported that he was charged with performing a criminal operation on a 17-year-old girl.

Dairy Licenses Revoked.—The board of public service, St. Louis, has revoked the license of thirteen dairies and denied a license to eleven others for failure to comply with the city ordinance requiring pasteurization of all milk. The attorney for the dairy men announced that he would test the validity of the ordinance by appealing to the courts.

Additional Physicians for Eleemosynary Institutions.—A bill was passed by the legislature authorizing the board of control to appoint a larger number of assistant physicians for the eleemosynary institutions than was allowed under the statutes. The new law has been signed by the governor. It provides for assistant physicians as follows: State Hospital No. 1, Fulton, five assistant physicians; State Hospital No. 2, St. Joseph, six; State Hospital No. 3, Nevada, five; State Hospital No. 4, Farmington, three; Colony for the Feebleminded, Marshall, two; State Sanatorium for Tuberculosis, Mount Vernon, two. The salaries remain the same, $1,800 a year.

NEW HAMPSHIRE

State Medical Meeting.—The annual meeting of the New Hampshire Medical Society, at Concord, has been changed from May 23-24 to May 22-23, it is announced by Dr. D. E. Sullivan, secretary of the society.

NEW YORK

Prenatal Consultations.—The division of maternity, infancy and child hygiene of the state department of health is arranging for a series of prenatal consultations in several cities in the northern part of the state to instruct prospective mothers how to care for their health. No patients under the care of physicians will be accepted without the physician's consent. The first consultation, to which all physicians are invited, will be held at Malone, May 1.

Academy of Sciences Announces Prize.—It has been announced by the academy that a prize of $250 will be offered at the annual meeting in December by Mr. A. C. Morrison, fellow of the academy, to be known as the A. C. Morrison Prize for 1923. The conditions are: 1. Membership in good standing of the New York Academy of Sciences or one of the affiliated societies. 2. Submitting of papers on or prior to November 13. The prize is offered for the most acceptable paper embodying the results of original research not previously published in a field of science covered by the academy or an affiliated society.

Amendments to Public Health Legislation.—There is a bill before the Senate to amend the public health law in relation to the qualification of midwives. It provides that all midwives must have an education equivalent to that qualifying a pupil to enter the second year in high school; it is also provided that in case of persons of foreign birth who have extended experience or in otherwise exceptional circumstances this requirement may be waived by the state commissioner of health.——Another bill before the legislature would abolish the state hospital development commission.

——A bill has been presented to amend the state income tax so as to exempt from the tax all expenses during the taxable year for medical, surgical or dental service.——The Assembly Codes Committee voted unanimously to kill the Cotillo-Leininger antivivisection bills.

New York City

Memorial Meeting.—The medical board of Mount Sinai Hospital will hold a memorial meeting, April 23, in appreciation of the work of the late Dr. Arpad G. Gerster.

Harvey Society Lecture.—Dr. Karel Frederick Wenckebach, professor of medicine, University of Vienna, will deliver the last Harvey Society Lecture of the 1922-1923 series at the New York Academy of Medicine, April 28, on the subject of "The Rhythms of the Heart."

Drive for Palestine Fund.—Dr. Chaim Weizmann was the guest of honor at a dinner given at the Park Palace on April 14 under the auspices of the Palestine Foundation Fund. This event opened the sectional drive for Harlem's quota of the $2,000,000 to be raised in this city.

Large Quantity of Morphin Seized.—Twelve hundred pounds of morphin, said to be the largest illicit consignment received in this country, was seized, April 6, in the New York Central Railroad yards, by the customs officials and railroad police. The drug, said to have a value of more than $1,000,000, was marked as a consignment of lamps for Montreal, Canada, and was landed from a Holland-America line ship.

Governor Wants Law to Curb Narcotics.—Governor Smith, April 11, asked the legislature for a statute, following in general the Harrison Narcotic Law, to curb the narcotic drug evil in New York. A bill carrying out the governor's plan was introduced. It would nullify the statute of privileged communication between a physician and a drug addict, and require all New York City physicians to report the name and address of drug addicts to the health department. In other parts of the state, this information would be filed by physicians with the state hospital commission once a month.

Personal.—Dr. Sigismund S. Goldwater, director of Mount Sinai Hospital, will represent the American Hospital Association at the celebration of the eight hundredth anniversary of St. Bartholomews' Hospital, London, and will also address the annual meeting of the British Hospitals Association at Sheffield, May 31-June 1.——Dr. Charles Wilson-Prevost, New York, has been appointed physician to the American Hospital in Paris.——Dr. Charles H. Young has been appointed superintendent of the Hospital of the Good Shepherd, Syracuse.

Citizens' Committee Calls Veteran Hospital Unfit.—In a report to Secretary Mellon, the Citizens' Committee takes issue with the findings of the White Committee on United States Veterans' Hospital No. 81, in the Bronx and proposes the abandonment of the institution for neuropsychiatric treatment. The report proposes the erection in Greater New York of a new institution for the care of veterans suffering from mental diseases and the utilization of the present building for general medical and surgical cases. The Citizens' Committee contends that Hospital No. 81 is not fireproof in the modern sense of the term, and suggests important changes and additions to bring the hospital up to the standard of ordinary hospitalization.

Outpatient Clinics Organize Section on Medicine.—The Associated Outpatient Clinics of the City of New York recently reorganized its Section on Medicine at a meeting held at the New York Academy of Medicine. Dr. Alexander Lambert presided at the meeting and fifty-one institutions maintaining medical clinics were represented. The section proposes to deal with such questions as the closer relation between medical service and the outpatient department, and in and out record systems, the difficulties between general medicine and the specialities, the improvement of laboratory service and the securing of adequate medical social service. The officers elected were: chairman, Dr. Leander H. Shearer; vice chairman, Dr. P. D. Barr; executive secretary, Dr. Michael M. Davis, Jr.

NORTH CAROLINA

John McTyeire Flowers' Lectures.—On account of illness, Dr. W. W. Keen, emeritus professor of surgery at the Jefferson Medical College, Philadelphia, was unable to deliver the Flowers' lectures at Trinity College, Durham, April 10, 11 and 12, as scheduled. These lectures have been postponed until May 2, 3 and 4, when Dr. Keen will lecture on the subjects noted in THE JOURNAL, March 31, p. 931.

OHIO

Fellowship for Hospital Interns.—At a meeting of trustees of the Toledo Hospital, April 11, a fellowship for interns was founded, and the time which they serve extended to two years. A bonus of $1,000 will be given for further study, either in the United States or Europe, to the intern who does the best scientific work for the hospital and writes the best thesis at the completion of his first year. This award will be made by the executive committee of the medical staff.

Poor Teeth and Working Permits.—Following medical examination of 4,500 public schoolchildren of Cleveland who applied for working permits, the teeth of practically all the children were found in poor condition. The Chamber of Commerce has appointed a committee on mouth hygiene to report dental needs among schoolchildren and to suggest a remedy for existing conditions. Cleveland has eight dental clinics taking care of about 19 per cent. of the first grade children. It is hoped eventually to have one dental clinic for every four schools.

OKLAHOMA

Physician Sentenced for Life.—Dr. Alonza B. C. Davis, Oklahoma City, charged with performing an illegal operation on a woman, who died, February 12, according to reports, was found guilty of murder and sentenced to life imprisonment, April 1.

Personal.—Dr. William B. Smith, Fairland, has been appointed health officer of Ottawa County to succeed Dr. J. T. Wharton, resigned.——Dr. Joseph J. Hardy, Poteau, has been appointed county superintendent of health of Leflore County.——Dr. Lewis M. Lett, Dustin, and Dr. Daniel Y. McCary, Holdenville, were elected president and secretary, respectively, of the Hughes County Medical Society at the annual meeting.

OREGON

Physician Pardoned.—According to reports, Dr. Andre A. Ausplund of Portland, who was convicted in 1915 of causing the death of a young woman on whom he performed an illegal operation and sentenced to serve from one to fifteen years in prison, has been granted a pardon. Dr. Ausplund began his sentence in the state prison, March 15, 1921.

PENNSYLVANIA

Mellon Lecture.—Dr. David Marine of the Montefiore Hospital, New York, will deliver the eighth Mellon lecture, entitled "The Importance of Our Knowledge of Thyroid Physiology in the Control of Thyroid Diseases," before an open meeting of the Society for Biological Research of the University of Pittsburgh Medical School, May 10.

Philadelphia

Laryngologic Society Elects Officers.—At the annual meeting of the Philadelphia Laryngological Society, Dr. George W. Mackenzie was elected president; Dr. William A. Hitschler, vice president; Dr. Arthur J. Wagers, treasurer, and Dr. Henry A. Laessle, secretary.

SOUTH DAKOTA

Hospital News.—The Kiwanis Club, of Redfield, has assumed the management of the local hospital owned and operated by Dr. Floyd M. Baldwin since 1917. Various other organizations in the city have pledged their support.

TENNESSEE

Medical Society Reorganized.—The Bristol Medical Society, which has been inactive for many years, was reorganized at a meeting held, April 2, with Dr. Nathan H. Reeve as president and Dr. Harry W. Bachman, secretary. A dinner was recently given in honor of Dr. Reeve to celebrate his seventy-fifth birthday and his fiftieth year of practice.

VIRGINIA

Chemical Laboratory to Be Established.—The Wise County Board of Supervisors has appropriated $2,000 to augment an equal sum from the Rockefeller Foundation and the state of Virginia for establishing a branch chemical laboratory in Norton.

WYOMING

State Health Officer Resigns.—Dr. Albert B. Tonkin, Cheyenne, state health officer, has resigned, and will resume practice at Riverton. Dr. Tonkin's successor has not yet been appointed.

PHILIPPINE ISLANDS

Public Health News.—Reorganization of the health service of the Philippine Islands is expected soon; according to proposed plans the director of health will have the rank of brigadier general.——Plans are under way for the amalgamation of the activities of the Philippine Health Service and the public welfare commission under the secretary of public instruction. The public welfare commission is at present under the jurisdiction of the Department of the Interior.

Personal.—Dr. Emilius C. Dudley, Chicago, gave a series of illustrated lectures before the faculty and student body of the University of the Philippines during the month of January in Manila. While in that city, Dr. Dudley held the rank of visiting professor of gynecology at the university. ——Dr. Victorio Magno y Gomez, health officer for Malasiqui and San Carlos, was seriously injured, recently, when the automobile in which was driving, overturned.——Prof. T. H. Pardo de Tavera of the University of the Philippines has been appointed director of the Philippine Library and Museum.

CANADA

Personal.—Dr. A. A. Anderson, Savannah La-Mar, has been appointed district medical officer of Frankfield, Jamaica, ——Dr. William T. B. Mitchell, assistant superintendent of Westminster Hospital and lecturer on mental hygiene in the faculty of public health, Western University, London, Ont., has been appointed chief psychiatrist for the Dominion Soldiers' Civil Reestablishment, at Ottawa.——Dr. George Armstrong, who recently resigned his position as professor of surgery and clinical surgery at McGill University Faculty of Medicine, Montreal, will retain his position as surgeon-in-chief of the Royal Victoria Hospital.——McGill University, Montreal, has conferred the honorary degree of doctor of laws on Sir William Taylor, regius professor of surgery, University of Dublin; Sir Berkeley Moynihan, and Sir Robert Jones.

GENERAL

American Association of Pathologists and Bacteriologists.—At the annual meeting of the association in Boston, March 30-31, the following officers were elected for the ensuing year: president, Dr. Theobald Smith, Princeton, N. J.; vice president, Dr. James Ewing, New York; treasurer, Dr. Frank B. Mallory, Boston, and secretary, Dr. Howard T. Karsner, Cleveland.

International Health Conference.—Seventy-two nations will send their leading educators and child health authorities to the International Health Education Conference, to be held at Oakland, Calif., June 28-July 6, under the auspices of the American Child Health Association. In addition to 1,000 invitations sent abroad, 2,000 will be dispatched to leading educators, nutrition experts, ministers of health and biologists in this country.

Memorial Hospital in Paris.—The new building of the American Hospital of Paris now being erected at Neuilly, to be known as "The American Memorial Hospital, 1914-1918," will be dedicated to the memory of the American dead in the World War. The building has been donated by Mrs. Robert Bacon, as a memorial to her husband, late ambassador to France. The cornerstone of the building will be laid in June.

Fund for Research.—The American Pharmaceutical Association has available a sum amounting to $400 which will be expended after Oct. 1, 1923, for the encouragement of research. Investigators desiring financial aid in their work should communicate before June 1 with H. V. Arny, chairman of the research committee, 115 West Sixty-Eighth Street, New York, giving their record and the particular line of work for which the grant is desired.

International Association of Medical Museums.—The American and Canadian Section of the International Association of Medical Museums held its sixteenth annual meeting in Boston, March 29. Dr. Frank B. Mallory, Boston, was elected president; Dr. Howard T. Karsner, Cleveland, first vice president; Dr. Harold E. Robertson, Rochester, Minn., second vice president; Major James F. Coupal, Washington, D. C., third vice president, and Dr. Maude E. S. Abbott, McGill University, Montreal, Canada, secretary-treasurer.

Tri-State Medical Association's Trip.—More than 300 physicians of the Tri-State District Medical Association (Iowa, Illinois, Wisconsin and Minnesota) left, April, 15 for Cleveland, where under the direction of Dr. George W. Crile and Dr. Charles F. Hoover of Western Reserve University, they will hold a clinic. Harvard University, Boston, will be the next stop on the clinic trip, then New Haven, Philadelphia, Baltimore and New York. A stop of several days in Washington, D. C., will complete the trip.

Liquor Ruling Overruled.—Judge McKenzie Moss, Assistant Secretary of the Treasury, announced this week that persons arriving in New York from abroad would not be permitted to bring a quart of intoxicating liquor ashore for medicinal purposes. The decision of Judge Moss overruled a recent ruling made by the collector of the Port of New York. It was pointed out by the Assistant Secretary of the Treasury that the regulation of September, 1919, permitting the importation of a small quantity of liquors and tobacco, had been amended, liquor being omitted.

Dr. William H. Welch Receives the Gold Headed Cane.—In 1919, the American Association of Pathologists and Bacteriologists presented to Dr. Harold C. Ernst, Boston, a gold headed cane, a token of appreciation of his services to the association and to medicine. Before his death, in 1922, Dr. Ernst conceived the idea of using the cane as a sign of approval of the work of those who represent the best traditions in medicine. The council of the association will, therefore, confer custodianship of this token from time to time, such custodianship to last throughout the recipient's lifetime. It was unanimously voted this year to confer the custody of the cane on Dr. William H. Welch of Baltimore, who has accepted the honor. Dr. Welch will prepare a manuscript on his experiences in medicine, to maintain the historical significance of the cane.

Wynn Mountain.—By recent decision of the United States Geographic Board, honor was paid to the late Dr. Frank B. Wynn in giving his name to a peak in Glacier National Park, the Interior Department has announced. Wynn Mountain stands at the mouth of Canyon Creek, up which one of the most popular trails from the Many Glacier region runs to Cracker Lake. Dr. Wynn, who lost his life in an accident while climbing Mount Siyeh in 1922, was a resident of Indianapolis, Ind., a physician, scientist, man of letters, poet, and one of America's great lovers of mountain climbing. In behalf of the Nature Study Club of Indiana, of which he was president, and with the consent of the Department of the Interior, he undertook several years ago to chart routes of ascent to the peaks in Glacier National Park. This work was to cover a period of years, and the findings were to be published for the guidance of visitors to the park. It was while engaged on this mission that Dr. Wynn lost his life.

Society News.—The annual meeting of the Southwestern Virginia Medical Association will be held in Christiansburg, Va., May 17-18.——The Association of Southern Railway Surgeons will hold its annual session in Charleston, S. C., May 22-24.——The American Association of Anesthetists and the Pacific Coast Association of Anesthetists will hold a joint meeting in San Francisco, June 22-26.——The Pacific Northwest Medical Association will meet in Seattle, June 19-21, under the presidency of Dr. Earl Else, Portland, Ore. ——The first annual meeting of the Western Society for the Study of Hay Fever, Asthma and Allergic Diseases will be held in San Francisco, June 25, under the presidency of Dr. Grant Selfridge, San Francisco.——The Hospital Association of Pennsylvania will hold its annual convention at the Hotel Adelphia, Philadelphia, April 26-27.——The fortieth annual meeting of the American Climatological and Clinical Association will be held at Niagara Falls, Canada, May 23-25, under the presidency of Dr. Charles W. Richardson, Washington, D. C.——The American Association of Immunologists held its annual convention in Boston, March 29, under the presidency of Dr. George W. McCoy.

LATIN AMERICA

Personal.—Dr. Miguel Jiménez López of Bogotá has been appointed chief of the state department, the *ministerio ejecutivo nacional.* The members of the Club Médico of Bogotá tendered him a banquet to celebrate his appointment and in appreciation of the fact that a physician had been chosen for the position.——The *Repertorio* of Bogotá mentions the return to that city of Dr. Tulio Forero Villaveces after a long absence in the United States and Europe.——Dr. Garfield de Almeida was the guest at a banquet recently given in honor of his appointment to the charge of the Hospital S. Francisco de Assis at Rio de Janeiro. The *Revista Medico-Cirurgica do Brasil* devotes a recent number to listing his numerous works published in the *Revista* and elsewhere. He was sent on a special mission to other countries early in

his career to study the system of public hospitals and charities, in the Latin countries in particular.——Dr. A. Gavião Gonzaga has been placed in charge of the flying squadron sent by the national public health service to Ceará in northern Brazil to help fight the epidemic of yellow fever now prevailing there. Dr. S. Barroso is in charge of the work in the Bahia district.

FOREIGN

The Physician's Income Tax.—The *Medizinische Klinik* reproduces some of the article with this title published in THE JOURNAL, Feb. 17, 1923, saying that the provisions of the tax and the deductions are about the same as in Germany. The only feature commented on as remarkable in the United States tax is that the office rent and maintenance are not deductible if the office is in the physician's own house or building.

Home for the Medical Societies of Copenhagen.—The physicians of Copenhagen have organized a stock company, which has purchased a building for a Domus Medica. It is planned to have the building reserved exclusively for the Copenhagen Medical Society on its weekly meeting day, but at other times it is to serve as a medical club, with possibly hotel arrangements. The Danish Medical Association is to contribute 5 crowns annually per member toward the maintenance of the building.

Osler Memorial Fund.—At the final meeting of the Oxford Osler Memorial Fund it was announced that £2,000 (approximately $10,000) had been received to date. It has been decided to place a bronze plaque in the university museum; to award a memorial medal every five years to a graduate of the University of Oxford who has made some distinguished contribution to medical science, and to form an Osler fund to assist teachers of the medical faculty to travel in the interest of medical research.

Endemic Goiter in Tasmania.—The annual report of the Department of Public Health of Tasmania for the year 1921-1922 contains the results of an investigation of goiter, which is endemic in many parts of Tasmania. The 644 cases reported throw considerable light on the subject. It was found the disease prevails along certain river valleys, and especially in the southern half of the island. Goiter in females were found to be eight times as numerous as in males. Of 2,581 schoolchildren examined, from 5 to 8 per cent. had simple parenchymatous goiter.

Teaching Schoolgirls the Care of Infants.—The *Presse médicale* of March 10 congratulates the country on the realization of the long cherished ideal to have the girls in school given systematic training in puericulture. The minister of public instruction and the minister of hygiene have issued a formal circular addressed to the prefects of France urging them to plan for imitating the work that has been under way for some time in eight public schools at Paris and in the province. The schoolgirls are taken one morning a week to an infant welfare station and are given practical object lessons. Credit is given the children for work in this line; it is done outside the regular class hours.

Deaths in Other Countries

Sir William Thorburn, emeritus professor of clinical medicine, University of Manchester; former Hunterian professor at the Royal College of Surgeons; in London, March 18, aged 61.——Dr. **G. C. Purvis,** government bacteriologist; at Grahamston, South Africa, of heart disease.——Dr. **John Irving,** surgeon to the Huddersfield Infirmary, England, March 9, aged 73.——Dr. **H. N. Eccles,** formerly roentgenologist with the British Army in India; at Hove, England.——Dr. **E. W. McQuaid,** lieutenant, Irish National Army; demonstrator of anatomy at the Royal College of Surgeons of Ireland; shot and killed by Republican regulars in Mayo, February 22, while attending the wounded.——Dr. **Antonio Dizon y Natividad,** at San Juan de Dios, January 17, of typhoid fever; aged 28.——Dr. **K. O. Olander,** an alienist of Stockholm, aged 50, physician in chief of the Katarina Hospital and of the municipal hospital for the insane. He was shot on the street by a former patient.——Dr. **Carlos Calleja,** professor of histology and anatomy at the University of Barcelona.——Dr. **Alfred Chatin** of Uriage, a dermatologist and syphilologist of note, victim of an accident during athletic exercise.——Dr. **Giol del Valle,** formerly professor of clinical medicine at the University of Madrid, stabbed himself in his grief over the recent death of his son.——Dr. **B. Morales Arjona,** professor emeritus of obstetrics and gynecology at the University of Valladolid.

Government Services

Veterans' Bureau News

The Federal Board of Hospitalization has authorized the Veterans' Bureau to take over the American Legion Memorial Hospital at Kerrville, Texas, under lease, June 1; to purchase the Hahnemann Hospital at Portland, Ore., for a maximum price of $175,000, and to reject all bids for the proposed hospital at Livermore, Calif.

The hospital at Kerrville, Texas, cost the state and the American Legion $1,800,000, and eventually will care for 480 patients. Plans are being made under which patients who are being treated in the temporary institution at Houston will be transferred to Kerrville.

The owners of the Hahnemann Hospital at Portland, Ore., are asking $300,000 for that property. The government holds a lease until 1925, and pays an annual rental of $25,000. In view of the amount which has been expended by the government for its enlargement and equipment, the board expressed the belief that $175,000 was a reasonable price and authorized its purchase at that figure if funds are available.

The Hospitalization Board has arranged to consolidate all Veterans' Bureau supplies in three large depots. One, for the Atlantic section, will be at Perryville, Md., where the bureau now maintains a supply station. Chicago will be the supply depot for the central section, as the bureau now has in that city a large fireproof building. A site for the Pacific coast section has not been chosen. The two supply stations at Long Island City, N. Y., and Chillicothe, Ohio, will be closed as soon as possible.

Dr. Harvey Cushing to Receive Medal

A citation for the award of a Distinguished Service Medal to Dr. Harvey Cushing of Boston has been approved by Secretary of War Weeks. The citation refers to Dr. Cushing as senior consultant of surgery of the American Expeditionary Forces and in direct charge of treatment of gunshot wounds of the First Army Hospital during the Meuse-Argonne offensive, and says: "He performed conspicuous and distinguished services to the government" and "His individual efforts in that capacity saved the lives of many severely wounded soldiers." The time of the award of the medal to Dr. Cushing has not been set.

Additions to Navy Medical Corps

The Surgeon General of the Navy announced this week that the following have been examined and have qualified for appointment as assistant surgeons with the rank of lieutenant (junior grade) in the Medical Corps of the Navy: Drs. Asa G. Churchill, St. Paul; William R. Manlove, Jr., Nashville, Tenn., and Frederick G. Merrill, Jr., Boston.

Changes in Navy Medical Corps

Capt. Ammen Farenholt, who has been directed to assume duty as medical officer of the twelfth naval district at San Francisco, will serve until the arrival of Rear Admiral George H. Barber, previously assigned to that station. Rear Admiral Barber will be relieved of command of the naval hospital, Canacao, P. I., in September. Commander Charles N. Fiske has been ordered to duty at Mare Island, and assigned to the *Nevada*. He will relieve Commander W. A. Angwin, who will go as executive to the naval hospital, San Diego, Calif. Commander F. E. Porter, from the naval training station, Great Lakes, Ill., will succeed Commander Fiske as executive of the Mare Island hospital.

Physicians Needed

Physicians are being sought to fill vacancies in the U. S. Veterans' Bureau and the U. S. Public Health Service at salaries ranging from $2,400 to $5,500 in the Fourth Civil Service District. In all positions in which the salary does not exceed $2,500 a year, a bonus of $20 a month will be paid.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 28, 1923.

Sir James Dewar

Sir James Dewar, F.R.S., known all over the world for his liquefaction of what used to be called the permanent gases, died recently. Born at Kincardine-on-Forth in 1842, he studied at Edinburgh University, where he was a pupil of, and later assistant to, Lord Playfair, professor of chemistry. In 1875, at the age of 33, he was appointed Jacksonian professor of natural experimental philosophy at Cambridge, and two years later he became Fullerian professor of chemistry at the Royal Institution. He held both posts until his death. His popular Friday evening lectures at the Royal Institution attracted not only the ordinary public but also scientific men, of whom one said they were sure to see Dewar do something which "no one else would have thought of doing." It was there that he carried out his researches on the liquefaction of gases and the properties of matter approaching the absolute zero, which have rendered him famous. Attracted by the work of Caillete and Pictet in that sphere, he showed the former's apparatus for the first time in this country, in 1878. In 1884, he obtained oxygen in the liquid state and then turned his attention to the more difficult problem of liquefying hydrogen. A condition of success was the discovery of a means of preventing the influx of heat into the cooled gases, and this he found in his vacuum bulbs. The principle on which they depend was afterward applied in the now familiar vacuum flask.

In 1886, he exhibited oxygen in the solid state, and by 1891 he proved that liquid oxygen and liquid ozone are attracted by the magnet. He obtained a degree of cold sufficient to liquefy hydrogen by utilizing an observation made by Lord Kelvin and Joule that a gas forced under pressure through a porous plug falls in temperature owing to internal work being done by its molecules. But the carrying out of this principle required extraordinary constructive ingenuity. Pressures of tons to the square inch had to be provided for, and an accuracy of fitting far beyond that of ordinary engineering, allowance being made at the same time for the contraction of material cooled nearly 300 degrees C. below normal temperatures. The finished machine, of which a duplicate was sent to the St. Louis exposition, weighed 2 tons and contained thousands of yards of pipe. With this apparatus, he succeeded in collecting liquid hydrogen in an open vessel in 1898, and in the following year obtained the element in the solid state, thus completing the conquest of all the gases known to Faraday. Helium then remained the only known gas that resisted liquefaction. Dewar did much work on the problem, and was able to forecast the methods by which it could be solved; but ill health and other circumstances prevented him from completing the work, and it was Onnes of Leyden who succeeded. Employed as refrigerating agents, liquid air and liquid hydrogen constitute a potent weapon of physical research, making possible the study of substances under entirely novel conditions as to temperature.

Besides many determinations of the physical constants themselves, Dewar's researches included electrical conductivity, thermo-electric powers, magnetic properties, and dielectric constants of metals and other substances at low temperatures, the effects of extreme cold on phosphorescence, chemical and photographic action, the strength of materials, color and the life of seeds and bacteria. On the discovery of radium, he collaborated with Curie in investigating its behavior at low temperatures, and reached the remarkable conclusion that its power of emitting heat is unimpaired, if not intensified, by extreme cold. He was one of the first to measure directly the rate of production of radium from helium. In the early years of the war, studies on the diffusion of gases led him to examine soap and other films of great tenuity. In investigations that he was conducting up to a few weeks before his death, he produced large soap films and bubbles which lasted for months, the secret of their longevity lying in their being blown with perfectly pure air and pure materials. Honors were showered on him from all over the world, including the first award of the Hodgkin gold medal of the Smithsonian Institution in 1899. He married in 1871. He had no children.

The Memorial to Osler

A final meeting of the subscribers to the Oxford Osler Memorial Fund was held at the University Museum, Sir Herbert Warren, president of Magdalen College, chairman of the executive committee, presiding. The chairman explained that the memorial was only one of several, the United States and Canada, in which Sir William had spent a large part of his life, having decided to establish memorials of their own. It was announced that the fund now amounted to $10,000. The following proposals were submitted on behalf of the executive committee: (1) the purchase of a bronze plaque of Sir William Osler, measuring 32 by 22 inches, a copy of that of Vernon of Paris, made for the Medical Faculty of Maryland, to be hung in the University Museum; (2) the establishment of a fund for the foundation of an Osler Memorial Medal in bronze, to be awarded every five years to a graduate of the University of Oxford who has made some distinguished contribution to medical science, learning or practice (this medal might be a reduced replica of the portrait plaque); (3) the remainder of the sum, together with any sums hereinafter added, to be called the "Osler Traveling Fund," for the propagation or acquisition of medical knowledge or for medical research, to be invested and the interest utilized to assist teachers of the Medical Faculty to travel for the purposes stated. It is estimated that the capital sum remaining for this purpose will be about £1,700 (about $8,000).

Sir Archibald Garrod, Osler's successor at Oxford, in introducing these proposals, stated that they had the entire approval of Lady Osler, as well as of other friends. They were unanimously adopted.

Cosmetics and Cancer

At the Institute of Hygiene, Sir George Lenthal Cheatle, a surgeon well known for his investigations on cancer, deprecated the use of soap, face powders, coloring matter, creams, bath salts and in fact everything that is scented, as conducive to cancer by irritation of the skin. He considered powders and soaps as especially dangerous, since they made their way into the glands of the skin and then set up trouble which might end in cancer. There was a great opportunity for some inventor who could discover a substitute for soap, for though personal cleanliness was essential, the perpetual application of soap should be discouraged. The smoke of cigarets he considered harmful to the skin, advising the use of long holders.

Sir William Thorburn

British surgery, the surgery of the spine in particular, has lost much by the death at the age of 61 of Sir William Thorburn, K.B.E., C.B., C.M.G., F.R.C.S., emeritus professor of clinical surgery at the University of Manchester. In 1886, he was appointed assistant surgeon to the Royal Infirmary, Manchester. Here he quickly made a reputation for the treat-

ment of injuries of the spine, accidents of frequent occurrence in the great manufacturing cities. The subject had previously received little attention except in connection with railway accidents. In 1890, Thorburn gained the Jacksonian prize at the Royal College of Surgeons for a masterly essay on "The Nature and Treatment of Injuries to the Spinal Column and the Consequences Arising Therefrom." Four years later, as Hunterian professor of pathology and surgery, he delivered at the College a course of lectures on these injuries. He chose the same subject for his Bradshaw lecture in December, 1922, when he summed up somewhat despondingly his experience of nearly half a century. Like many of the profession, he suffered severely by the war, losing his three sons. Broken in health and spirits, he retired from active work in Manchester. He had hardly settled to a life of leisure in London when the death of his wife further saddened him. He struggled bravely to continue his work, but he gradually lost strength.

PARIS

(From Our Regular Correspondent)

March 23, 1923.

In Opposition to Favoritism

A recent government decree provides that the minister of public instruction may grant a special dispensation exempting from examinations, or from parts of examinations, students who served in the army or navy for six consecutive years, and who were wounded, or decorated with the Legion of Honor, or who received the distinguished service medal or the *croix de guerre avec palmes*. This decree has raised a storm of protest. The assembly of the professors of the law faculty of the University of Paris has declared by a unanimous vote that the decree is incontestably illegal; for university titles and degrees can be granted only to persons who have earned them by passing the regular examinations and competitive tests. The Association corporative des étudiants en médecine (association of medical students) publishes likewise a protest against what it calls an abuse of power "which cannot fail to discourage industrious students and to discredit physicians in the eyes of the public."

A Pasteur Tag Day

The government, desirous of encouraging all movements connected with the commemoration of Pasteur and deeming it advantageous to offer all the elements of the population an opportunity to participate, has authorized a tag day in honor of Pasteur. It will not be the sole purpose of this manifestation to exalt the memory of one of the most eminent French scientists. Of equal importance will be the endeavor to awaken public opinion in support of a widespread movement in favor of the development of scientific laboratories and the improvement of the various material resources placed at the disposal of our men of science for the carrying out of their researches. A circular letter expressing this idea has been sent to the prefects by the minister of the interior. May 27 has been chosen for the tag day. The proceeds will be used for the benefit of scientific laboratories.

Privileges of the Physician with Respect to Choice of Treatment

The chief physician of an antituberculosis dispensary, who was relieved of his post by a decision of the administrative council, brought suit for damages against the council. The court, in judging of the action taken against the physician, held that the council was justified in its conduct by reason of the fact that the physician had failed to comply with the demand made on him by the administrative council not to use any other pharmaceutic specialty than the one the council had specially designated, and to refrain from prescribing any similar product not authorized by the Oeuvre de la tuberculose humaine (antituberculosis society). The court upheld the right of the administrative council to require the exclusive use of a given medicament, adding, in explanation, that, while it was true that in hospitals physicians who were the heads of services are entirely independent in the matter of the choice of treatment to be given patients, in dispensaries where the patients are all suffering from the same affection—tuberculosis—a different rule applies, and an identical medication may be required.

However, the Paris Court of Appeals reversed the decision of the lower court, summing up the matter of privilege in this pronouncement:

> Under no circumstances can the contention be upheld that a physician is under obligations to prescribe identically the same treatment for all the patients of a dispensary by reason of the fact that they are all tuberculous. Any attempt to take away from the practice of medicine all considerations of a personal and individual nature is opposed to the most firmly established principles of science. It contravenes the rights and obligations of the physician, to whom the acquisition of a medical diploma accords perfect liberty in the matter of prescriptions. Furthermore, it is the duty of a physician to institute such treatment as his professional knowledge dictates. This liberty is, in fact, the basis of his responsibility, and the practice of medicine cannot be conceived of without it.

Definition of the Illegal Practice of Medicine

The conception of the Court of Cassation (the supreme court of France) in regard to what constitutes the illegal practice of medicine has recently undergone a complete change. A man by the name of Béziat, a self-styled healer, with the aid of occult powers, who was prosecuted for the illegal practice of medicine, was acquitted by the correctional court of Villefranche-en-Rouergue on the ground that the healer believed that by passing his hands over the site of the affection he could communicate to the patient a peculiar external force (The Journal, April 15, 1922, p. 1141). The case was brought before the Toulouse Court of Appeals, and the healer was again acquitted, but the Court of Cassation has recently annulled the decree, basing its decision on the contention that the mere fact of taking part in the treatment of patients by any procedure whatsoever constitutes a violation of the law for any one who is not a doctor of medicine. This decision is especially interesting in view of the fact that, about fifteen years ago, the Court of Cassation ruled that for an "empiric," whatever the nature of the affection might be, merely to place his hand on the seat of pain, while addressing, at the same time, a mental invocation to a spirit, whose intervention he believed himself able to call forth, does not constitute an example of illegal practice of medicine. Such acts were not regarded as punishable, provided the "empiric" did not administer any remedy, write any prescription or give any therapeutic directions to patients.

The Landouzy Museum

M. Paul Strauss, minister of public health, presided recently at the ceremonies held in dedication of the Landouzy Museum. This museum, which is devoted to physiotherapy and especially to the study of mineral waters, was founded with the documents and books specially bequeathed for this purpose by the dean of the faculty, now deceased.

A Portrait of Hippolyte Larrey

M. Balland, formerly chief pharmacist of the army, has presented to the Institute of France, for its gallery of celebrities, an excellent portrait of Hippolyte Larrey, by Isabey. Baron Hippolyte Larrey, former member of the Academy of Sciences and of the Academy of Medicine; former professor of surgical pathology in Val-de-Grâce, where his statue stands; later, medical inspector of the army and consulting

surgeon to Emperor Napoleon III, was the son of Baron Dominique Larrey, the eminent army surgeon during the First Empire.

Commemoration of Pasteur in Uruguay

M. Saavedra, chargé d'affaires of Uruguay in France, recently presented to Dr. Roux, the director of the Pasteur Institute, a large bronze plaque sent by the National Council of Hygiene in Montevideo and destined to be hung in the crypt of the Institute in evidence of gratitude and in honor of the memory of Pasteur.

BUCHAREST

(From Our Regular Correspondent)

March 5, 1923.

Exanthematous Typhus in Roumania

The lay press has created some stir over an epidemic of exanthematous typhus in the eastern part of Roumania, adjacent to Russia. Sporadic cases occurred in Jassy, Craiova, Cluj, Arad, and Oradea-Mare; but, as the result of really energetic, precautionary measures, the spread of the disease was successfully prevented. The cases that did occur were all fatal. The incidence of the disease has been attributed to the influx of Ukrainians, Armenians and Jewish refugees from Russia. In the last fourteen days no fresh case was reported, notwithstanding which the lay papers have gone so far as to propose the expulsion of these immigrants. This harsh measure not only is inhuman but is unnecessary; the importance of the epidemic has been exaggerated, and now no immigrants can enter the country without having first been isolated for fourteen days; they are then kept under observation for a further period of seven days.

Reorganization of the Military Medical Service

For the great army that Roumania must maintain, because of the continuous unrest in neighboring countries, the number of army physicians must be increased; the present number is quite inadequate. In view of the fact that the size of the country, the population and the number of recruits have trebled, though the number of physicians is less than in prewar times, the minister of war has presented a bill to add 150. A project has also been presented to increase the proportion of officers of superior rank as well as the total number of physicians. The conditions from which the army surgical corps has suffered since the termination of the war is shown by the increasing number of resignations and requests for early retirement, as well as by a continuous diminution in the number of candidates for the special schools of Jassy. The acuteness of this crisis is shown by the fact that, in 1922, forty-seven military physicians resigned, and there were only thirty-eight nominations. This year a competitive examination at Jassy for thirty-six vacancies for students, who obligate themselves, after graduation, to serve six years in the army in exchange for free medical education with maintenance during the course, brought together only twenty-seven candidates. It is evident that an increase in the number of military physicians must be supplemented by better opportunities for promotion and better pay.

Food Adulterations

The government laboratory has issued a report for the year ending December 31, which contains some interesting information. With regard to the so-called "temperance" drinks, it may be noted that beverages of a nonalcoholic character are frequently sold as cider (here called lemonade, or apple juice) or sparkling lemonade, "nonalcoholic," or "not dutiable"; the state chemist says that these are mixtures of real lemon, apple or grape juice with solutions of sugar, and that they contain less than 2 per cent. of proof spirit. But, he adds: many samples of so-called nonalcoholic grape juice are entirely free from the juice of grapes, and are simply solutions of sugar that have been aerated, flavored and colored. The percentage of alcohol contained was determined in 210 samples of liquors. In 182, the alcohol exceeded the legal limit. "Liqueur candies" are apparently not such innocent sweetmeats as their name might imply. Of twenty-five samples tested, six contained proof spirit ranging from 5 to 8 per cent., and in one case the amount was 15 per cent. In order to ensure that only genuine tea shall come into the country, all consignments are examined at the port of entry, and doubtful samples are sent to the state laboratory. Of the total number of samples submitted, eighty-four, representing 9,210 kg., were condemned as containing sand or other foreign matter, and 2,418 kg. were reported unfit for human consumption. It is stated, however, that there was no evidence in any case of intentional adulteration, and that the quantity rejected, though large, is quite insignificant in relation to the total amount of tea imported. The report also contains interesting information as to the use of preservatives in food products. Boric acid, salicylic acid and hydrogen peroxid were found in several samples of cream and butter. The total number of samples examined in the course of last year was 29,416, an increase of 2,318 on those of 1919. Such activity is ample proof of the care that is taken to insure the purity of the food and drink consumed in the country.

BELGIUM

(From Our Regular Correspondent)

Feb. 23, 1923.

Playgrounds

The Belgian Red Cross has appointed a committee, of which Mlle. Goblet d'Alviella is chairman, with a view to establishing regulations with respect to the organization and management of playgrounds for persons of all ages. Within a short time, not only the children but also the adults of every commune will enjoy the advantages of properly organized playgrounds, which may be regarded as just as necessary as dispensaries, hospitals and other modern agencies of social hygiene and public health.

The Belgian Pediatric Society

The Association internationale de pédiatrie was to have met in Brussels in 1915. As the course of events prevented the holding of this meeting, the Association des pédiatres de langue française has taken the place of the former society. The new organization, which was founded in France and includes in its membership pediatricians of all countries except the central empires, held its last meeting at Paris, in July, 1922. It has been decided to hold the next assembly at Brussels, in September, 1923, under the chairmanship of Dr. Pechère, Dr. Delcourt serving as secretary. The questions on the program are: pneumococcus infections in childhood; diagnosis and treatment of intestinal obstruction, and treatment of abnormal children.

At the Paris meeting, after an address by M. Pechère in which he discussed the merits of the former Société belge de pédiatrie, it was unanimously decided to reorganize this society with Dr. Pechère as president and Dr. Delcourt as general secretary. Its membership will comprise physicians and surgeons who specialize in the diseases of children, orthopedists, physicians who specialize in the treatment of abnormal children, and all those who cooperate in or are interested in the campaign for the betterment of health conditions among children in general. The assembly also decided on the publication of articles in a bulletin, which will probably be included in the journal *La pathologie infantile*, which

will, in that case, be altered and enlarged. This question will be definitely settled later.

Artificial Heliotherapy

The various lamps producing ultraviolet rays give results in no wise comparable with the effects secured with Finsen light. The marvelous results obtained with Finsen light in the treatment of lupus are well known. However, until recently there was too high a percentage of rebellious cases (about 30 per cent.) in which the treatment was not effective, but of late the Danish school has succeeded in raising the percentage of lupus cures to 96 per cent., owing to the combination of the local treatment by light and the general treatment by the arc light. M. François also demonstrated to the Société belge de physiothérapie the results of natural heliotherapy. But in the Scandinavian countries, and with us as well, the number of days on which natural heliotherapy can be used is much restricted, and it would seem that the arc light is an excellent substitute. In Denmark, moreover, several surgeons have been using this method in place of natural heliotherapy, and are well pleased with the results. The author demonstrated the organization of the treatment in his institute at Antwerp. The excellent results secured by exposure to the arc light is shown by the extraordinary increase in the percentage of cures among lupus patients. What promises to be especially effective is a combination of natural and artificial heliotherapy. On the cloudy days when natural heliotherapy cannot be applied, artificial heliotherapy can be substituted, which permits a continuation of the treatment and obviates the fear of losing ground once gained.

Industrial Diseases

The medical service of the department of industry and labor has been making, for some time, a special study of the subject of industrial diseases, but the problem is of so vast a scope that, in order to reach a proper solution of the question, all the data that can be collected in the different factories must be brought together. It is with this in view that Dr. de Laet has lately presented to the Société de médecine légale a well documented report on this problem of pressing interest, which affects the whole economic and industrial life of the nation. He lays stress on certain factors that must be considered in Belgium in connection with industrial diseases. After discussing succinctly the tenor of the British Workmen's Compensation Act, according to which, since 1906, compensation for industrial diseases has been regulated, and outlining the principal features of the French law of 1919, the general purport of which is the same, he pointed out that the basis of these laws is the establishment of the list of presumptions of origin. On the more or less complete condition of these lists depends the degree of efficacy of these laws. One cannot understand the pathology of industrial diseases without studying it from the ground up, with all the necessary helps, and unless one examines thoroughly into all new, suspected and light cases. In order that these conditions may be realized, three things are needed: (1) The creation, in the sense of strict specialization, of a school of "factory medicine," in which special training can be given by our medical colleges as an accessory to the course in legal medicine, as has been frequently proposed; (2) the establishment of a number of clinics to which sick and injured workmen may be admitted and which are equipped with all the means of exploration necessary. These clinics would study, at the same time, the therapeutics especially applicable to the pathology of industry, and (3) legislation creating these organizations, regulating their function and management, and establishing, along with the list of presumptions of origin, the mode of determining compensations for sufferers from industrial diseases.

BERLIN

(From Our Regular Correspondent)

March 10, 1923.

Statistics of Venereal Disease, 1910-1921

From the statistical material published by the Allgemeine Ortskrankenkasse (health insurance society), Berlin, 1917, Löwenstein has figured out the absolute number of venereal patients, has classified them according to sex and disease, has considered them relatively, taking into account erroneous and obscure diagnoses, and, in computing the final results, has made statistical comparisons in order to determine what allowances are required for so-called double counts in annual and quarterly reports. For purposes of comparison, he takes statistics of the health insurance societies of Magdeburg and Frankfort-on-the-Main and of the association of health insurance physicians of Berlin; records of prostitutes in Stuttgart and Berlin; statistics of the German empire for 1919, the Landesversicherungsanstalt Hannover, and the navies of many states; also the results of prophylaxis in the American navy, all of which taken together give a fairly accurate survey of the period 1910 to 1921. On the basis of his computations, the writer has reached the following results: No statistics on the incidence of venereal diseases can, at present, be regarded as accurate and generally utilizable. The space of a year should be adopted as the basis for all statistical enumerations. In any enumeration, double counts or repetitions must be taken into consideration; otherwise, they constitute a serious source of error. This study estimates this source of error for 1917 at 17.9 per cent., an equivalent of 1,000,000 venereal patients above the actual incidence. It is, however, true that comparatively few of those insured in the health insurance societies consult a physician for a venereal disease more than once during the year, which furnishes proof of the indolence of the masses, and, at the same time, gives an explanation for the enormous spread of venereal diseases. Uncertain and tentative diagnoses have a great bearing upon statistical computations, and should be taken carefully into account; otherwise, the results will be distorted. Previous to 1917, venereal disease was on the decrease, but from 1917 to 1919 there was an increase. Since 1919 there has been little change either way. Among women there has been a marked increase, but here as well a distinction must be made between the absolute number involved and the relative increase. The age group 20-30 is the one most affected. From Löwenstein's study it becomes evident that it is not permissible to apply local statistics to whole provinces, and much less to the whole empire. Even locally, it is out of place to assume that essentially the same conditions obtain in a given three months that were found to exist in a previous quarter. The morbidity statistics of various navies prove that the institution of prophylactic measures among the crews of vessels is feasible and practicable, provided discreet instruction in prophylaxis is given.

Accidents Among Workmen in Public Utilities

According to a government survey of workmen in gas and electric plants and in water works, the health conditions among workmen tending furnaces and retorts are largely dependent on the mode of manufacture used in retorts and furnaces, which in the older plants were constructed much differently from the modern makes. In the latter the filling and the emptying are done by machinery. The physical labor involved is thus materially decreased, and fewer workmen are required to do the work. Whereas formerly the hours of work in the gas plants were often very long, now the Berlin gas plants require only six hours work a day of their furnace workers, with the exception of Saturday and Sunday, when eight hours are demanded. From the records of health insurance societies of manufacturing plants in the city

of Berlin, it appears that the incidence of sickness among workmen in gas plants, which in 1913 was 45.4 per cent. less than that of other members of the health insurance societies, in 1920 was 74.7 per cent. higher than that of other members. The usual explanation given for this is the fact that now the workmen in gas plants draw full pay during periods of sickness, and receive in addition the sick benefits from the health insurance societies, so that sickness means virtually an increase in income. Among the causes of illness, accidents, catarrhal affections of the respiratory passages and rheumatic affections play a big part.

Cataract in Glass Blowers

At the request of the medical inspector of factories, Wirth examined 158 glass-blowers of a large bottle-making plant. In the 40-60 age group he found 32.4 per cent., and in the 60 plus age group, 73.3 per cent., with signs of cataract. These figures are somewhat higher than those reported by other investigators, which is due to the fact that the examination was made with the pupil dilated. The posterior cortical cataract, which was found by English investigators in 50 per cent. of the glass-blowers affected with cataract, Wirth observed in only 25 per cent. It was noted that, in the glass works, protective panes of blue or gray glass covered all the work openings, but on examination of these panes it was found that they allowed the passage of all light rays, the blue panes almost without change, the gray panes merely with decreased intensity.

Effect of Cancer on the Appearance of the Hair

Professor Schridde, anatomist at the Dortmund institute for research on occupational accidents and diseases, has been making a systematic study of the peculiar appearance of the hair in patients with cancer of the stomach, a phenomenon to which clinicians have occasionally called attention. He found as a regular manifestation in such patients that a portion of the head hair or the hair of the bearded region presents a deep black shade; on inspecting the individual hairs he found that they were not glossy, like normal black hair, but completely lusterless. These so-called cancer hairs are, furthermore, harder and stiffer than ordinary hair; they are also coarser. If such a hair is laid on a white sheet of paper, it looks like a heavy stroke made with deep black drawing ink. The phenomenon is especially observable in the region of the temples, occasionally also in the eyebrows, but is not noticeable in the hair on the body that is not exposed to the daylight. This black pigmentation was conspicuously absent only in persons with red hair, which is possibly due to the fact that red hair is something of a pathologic type. A peculiar pigmentation of the skin of the face and hands is often associated with this change in the hair. At postmortem examinations, Schridde can always tell from the pigmentation of the hair and skin of a subject whether or not cancer is present.

Marriages

HAROLD STANLEY SUMERLIN, Lieutenant, M. C., U. S. Navy, Coronado, Calif., to Miss Mary Cushing Parr of Pasadena, March 8.

LESLIE ALLEN WILSON, Cameron, Mo., to Miss Frances Bumsted of River Forest, Ill., in March.

WILLIAM H. GEISTWEIT, JR., Denver, to Miss Gertrude Pearson of Chicago, recently.

CHARLES D. HARRINGTON to Mrs. Abbie M. Cargill, both of Minneapolis, in March.

WILLIAM NEILL, JR., to Miss Alice Lawrason Buckler, both of Baltimore, April 7.

HARRY H. EAST, Portland, Ore., to Miss Lottie Morrison of Omaha, March 10.

Deaths

Lawrence Bruce Robertson, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, Toronto, 1909; assistant professor of pathology and demonstrator in clinical surgery at his alma mater; served with the Canadian Army Medical Corps, in France; aged 37; died, February 24, at the Wellesley Hospital, of influenza and pneumonia.

Romuald Samuel Santoire, Brooklyn; Montreal School of Medicine and Surgery, Montreal, Que., Canada, 1869; Victoria University Faculty of Medicine, Kingston, Ont., 1869; member of the Brooklyn Pathological Society; Civil War veteran; formerly on the staff of St. Mary's Hospital; aged 78; died, March 27, of arteriosclerosis and pneumonia.

William H. H. Githens, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1866; member of the College of Physicians and Surgeons of Philadelphia; formerly president of the Obstetrical Society of Philadelphia; also a pharmacist; aged 82; died, March 24, following a long illness.

James Kivette Stockard, Greensboro, N. C.; University of Nashville Medical Department, Nashville, Tenn., 1894; served in the Spanish-American War and with the American Expeditionary Forces in France during the World War; aged 65; died, March 23, of cerebral hemorrhage.

Edgar B. Grier ✠ Elizabeth, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1883; formerly president of the board of education; on the staff of the Elizabeth General Hospital and Dispensary; aged 65; died suddenly, April 2, of heart disease.

Harry Roswell Farris ✠ Oxford, Me.; University of Vermont College of Medicine, Burlington, 1899; served in the M. C., U. S. Army, during the World War, with the rank of lieutenant-colonel; formerly city health officer; aged 49; died, March 23, of erysipelas.

Thomas Conant, Boston; Medical School of Harvard University, Boston, 1868; for twenty-one years a member of the school board and for more than half a century a practitioner in Gloucester, Mass.; Civil War veteran; aged 81; died, March 24, of senility.

Luther Pope Eberhardt, Elberton, Ga.; College of Physicians and Surgeons, Baltimore, 1892; member of the Medical Association of Georgia, and for many years secretary of the county medical society; aged 53; died, March 25, of chronic nephritis and pericarditis.

Frank W. Somers, Cleveland; Cleveland Medical College, 1892; formerly professor of materia medica at the Cleveland Homeopathic Medical College; at one time on the staff of the Cleveland City Hospital; aged 60; died recently, of carcinoma of the prostate.

Edwin Ruthven Meng, St. Louis; Missouri Medical College, St. Louis, 1876; member of the Missouri State Medical Association; formerly emeritus professor of pediatrics at Barnes Medical College, St. Louis; aged 74; died, March 26, of cerebral hemorrhage.

Francis Laban Town ✠ colonel, U. S. Army, retired; Lancaster, N. H.; Dartmouth Medical School, Hanover, 1860; member of the State Medical Association of Texas; aged 86; died recently, at San Antonio, Texas, of cerebral hemorrhage.

Miles Bronson Titterington ✠ St. Louis; St. Louis College of Physicians and Surgeons, 1896; member of the American Roentgen-Ray Society and the Radiological Society of North America; aged 53; died, March 26, following an appendectomy.

Frank Walden Wright, New Haven, Conn.; Bellevue Hospital Medical College, New York, 1880; member of the Connecticut State Medical Society; for thirty-four years city health officer of New Haven; aged 68; died suddenly, April 1.

George Washington Ford, Magnolia, Ky.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1889; member of the Kentucky State Medical Association; aged 65; died recently, of pneumonia.

Shirley Edward Cox, Nashville, Tenn.; Vanderbilt University Medical Department, Nashville, 1891; formerly member of the city council and for eight years county health officer; aged 57; died, March 25, of heart disease.

Michael Valentine Halter ✠ West Park, Ohio; Cleveland College of Physicians and Surgeons, Medical Department

Ohio Wesleyan University, Cleveland, 1904; ordained a Catholic priest in 1915; aged 50; died, March 30.

Arthur Pedro Perry ✠ Boston; Medical School of Harvard University, Boston, 1886; member of the New England Society of Dermatology and Syphilis; formerly on the staff of the Faulkner Hospital; aged 65; died, April 1.

Harry Vane Bailey, Pekin, Ill.; University of Nashville Medical Department, Nashville, Tenn., 1888; member of the Illinois State Medical Society; president of the Tazewell County Medical Society; aged 62; died, April 10.

Samuel S. Caruthers, Nashville, Tenn.; Meharry Medical College, 1902; professor of dermatology since 1904, and secretary of the faculty, at his alma mater; died, January 22, as the result of an automobile accident.

Frank D. Lydick, Paris, Ill.; University of Michigan Medical School, Ann Arbor, 1890; formerly president of the board of education, and of the board of health; aged 63; died suddenly, April 1, of angina pectoris.

Jonas Hobart Vaughan, Marshfield, Mass.; University of Vermont College of Medicine, Burlington, 1880; founder of the Whidden Memorial Hospital, Everett; aged 69; died, March 20, of chronic nephritis.

William John Galvin, Oswego, N. Y.; Georgetown University School of Medicine, Washington, D. C., 1917; served in the M. C., U. S. Army, during the World War; aged 34; was drowned at sea, April 7.

Charles H. Rigg, Middletown, Mo.; American Medical College, St. Louis, 1878; St. Louis College of Physicians and Surgeons, St. Louis, 1888; aged 72; died, March 28, of cerebral hemorrhage.

Jacob Travers Krause, New York; Albany (N. Y.) Medical College, 1908; member of the Medical Society of the State of New York; aged 38; died, March 23, of peritonitis, following an operation.

Charles Pliny Smith, Watertown, S. D.; College of Physicians and Surgeons, Keokuk, Iowa, 1875; formerly on the staff of the Asbury Hospital, Minneapolis; aged 79; died in March, of senility.

Burrell Lue Arrington, Memphis, Tenn.; University of West Tennessee College of Medicine and Surgery, Memphis, 1913; aged 42; died, March 24, at Colorado Springs, Colo., of tuberculosis.

R. W. Maintz, Linn, Kan.; Missouri Medical College, St. Louis, 1889; member of the Kansas Medical Society; formerly a member of the state legislature; aged 59; died, April 2, of paralysis.

John Milton Williams, Orkney, Ky.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1907; aged 47; was shot and killed, February 22.

Samuel George White, Hodgeville, Sask., Canada; McGill University Faculty of Medicine, Montreal, Que., 1903; formerly a practitioner in North Dakota; aged 41; died recently.

Samuel Mitchell ✠ Hornell, N. Y.; New York University Medical College, New York, 1879; on the staff of St. James' Mercy Hospital; aged 67; died, March 25, of heart disease.

George Miller Luckey, Vinton, Iowa; Rush Medical College, Chicago, 1901; member of the Iowa State Medical Society; aged 48; died, April 3, of cerebral hemorrhage.

William R. Greeson, Conway, Ark.; Vanderbilt University Medical Department, Nashville, Tenn., 1882; member of the Arkansas Medical Society; aged 73; died, March 28.

Eda Bergquest Selders, Chicago; National Medical University, Chicago, 1899; member of the Illinois State Medical Society; aged 58; died, April 5, of chronic nephritis.

Albert Kidder Page, Boston; Medical School of Harvard University, Boston, 1893; member of the Massachusetts Medical Society; aged 60; died, April 3, of pneumonia.

Ulysses Alvora Wright ✠ Coatesville, Ind.; Northwestern University Medical School, Chicago, 1897; aged 57; died, March 4, of uremia, following bronchopneumonia.

Henry Shipman Drayton ✠ Jersey City, N. J.; Eclectic Medical College of the City of New York, New York, 1877; also a lawyer; aged 82; died, April 8, of senility.

William McHarrie, Seattle; Chicago Homeopathic Medical College, Chicago, 1895; aged 56; died, March 27, at the Minor Hospital, while undergoing an operation.

Augustus Emil Kosby, Yuba City, Calif.; University of California Medical School, San Francisco, 1875; also a druggist; aged 76; died, March 28, of pneumonia.

Emerson E. Snow, Batavia, N. Y.; Jefferson Medical College of Philadelphia, 1874; formerly a medical missionary in Central Africa; aged 72; died recently.

Kate Lindsay ✠ Boulder, Colo.; University of Michigan Medical School, Ann Arbor, 1876; on the staff of the Boulder Sanitarium; died, March 31, of senility.

William Barnaboo Tucker, Linden, Tenn.; University of Tennessee College of Medicine, Memphis, 1886; aged 70; died, March 27, of pneumonia and influenza.

Newton N. Brumback, Colorado Springs, Colo.; State University of Iowa College of Homeopathic Medicine, Iowa City, 1883; aged 69; died, March 21.

Frank Allen Shemwell, Paducah, Ky.; University of Nashville Medical Department, Nashville, Tenn., 1885; aged 75; died, March 31, of pneumonia.

Antonio Fernando y Arriola, Cabanatuan, Nueva Ecija, P. I.; University of St. Thomas Medical Department, Manila, 1894; aged 57; died recently.

Wade Ben Willey, Dallas, Texas; Medical Department of Drake University, Des Moines, Iowa, 1898; aged 60; died, March 21, of acute bronchitis.

Mitchell M. King, Brevard, N. C.; Georgia Eclectic Medical College, Atlanta, 1881; aged 71; died suddenly, March 11, of heart disease.

John Andrew Horn, Burfordville, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1869; aged 89; died, March 20, of senility.

C. W. Taylor, Stokesdale, N. C. (licensed, years of practice); aged 75; died, March 11, of chronic nephritis and mitral regurgitation.

Robert Henry Cartmell, Jackson, Tenn.; Bellevue Hospital Medical College, New York, 1881; aged 66; died, March 27, of heart disease.

Charles Mallory Chambliss ✠ Thornton, Wash.; Kansas City (Mo.) Medical College, 1883; aged 70; died, March 29, of heart disease.

William Frederick Jernigan, Port Arthur, Texas; Physio-Medical Institute, Cincinnati, 1881; aged 65; died, March 19, of endocarditis.

F. H. Bostock, Palisade, Neb. (licenced, years of practice); Civil War veteran; also a druggist; aged 102; died, March 17, of senility.

Calvin Charles Dibert, Bedford, Pa.; Columbus (Ohio) Medical College, 1884; aged 62; died, March 28, following a long illness.

David Lucas, Enfield, N. C.; Baltimore University School of Medicine, Baltimore, 1884; aged 77; died, January 11, of pneumonia.

Herbert L. Reed, Waupaca, Wis.; Hahnemann Medical College and Hospital, Chicago, 1880; died, March 27, of pneumonia.

Frederick Becker, Clermont, Iowa; Homeopathic Medical College of Missouri, St. Louis, 1875; aged 85; died, April 1, of senility.

Evans R. Whitley, Commerce, Texas; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1905; aged 53; died, March 26.

George Wilmer Yourtee, Burkittsville, Md.; University of Maryland School of Medicine, Baltimore, 1902; aged 45; died, April 1.

Benjamin Pyle, Kalamazoo, Mich.; University of Michigan Medical School, Ann Arbor, 1883; aged 64; died, March 30.

Thomas P. Shanahan, Chicago; Rush Medical College, Chicago, 1877; aged 71; died, April 8, of arteriosclerosis.

William W. Arnold ✠ Colorado Springs, Colo. (licensed, Colorado, 1886); aged 79; died, March 30, of influenza.

James A. Lingenfelter, Loudonville, Ohio; Pulte Medical College, Cincinnati, 1885; aged 73; died, March 27.

James E. Poore, Sacramento, Calif.; Jenner Medical College, Chicago, 1898; aged 68; died, January 21.

Isaac Abrahams ✠ Chicago; Chicago Hospital College of Medicine, 1918; aged 38; died, April 9.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

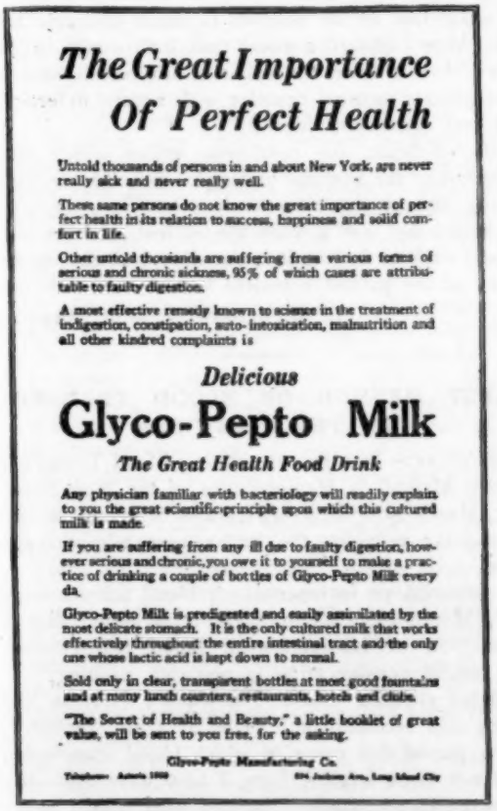
GLYCO-PEPTO MILK NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Glyco-Pepto Milk is a sour milk said to contain *Bacillus bulgaricus, Streptococcus lacticus* and *Glycobacter peptolyticus*. It is marketed by the Glyco-Pepto Manufacturing Co., Inc., Long Island City, N. Y., with the claim that its



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"The Secret of Health and Beauty," a little booklet of great value, will be sent to you free, for the asking.

Glyco-Pepto Manufacturing Co.

A typical newspaper advertisement of "Glyco-Pepto Milk."

administration supplemented with a potato diet, through the presence of *Glycobacter peptolyticus*, permits the implantation of the Bulgarian bacillus in the lower intestine and thus brings about an almost complete disappearance of phenols and indol from the urine.

Glycobacter peptolyticus has some amylolytic action; in flask cultures, in the course of fourteen days, about 40 per cent. of the starch is converted into sugar. It has been claimed that the administration of this organism in man produces a similar effect. There is no evidence, however, to show how great the amylolytic action would be in a few hours either in a flask or in the intestines. The claim that *Glycobacter peptolyticus* converts the starch into sugar and thus permits the implantation of *Bacillus bulgaricus* in the large intestine rests on very indirect evidence, and is open to question.

The experimental work used as a basis is that of Metchnikoff and Wollman, published in 1912. In their publication these authors devote only a little more than one page of text to the work with *Glycobacter peptolyticus* in rats and in man. They state that the administration of this organism caused the phenols and indoxyl to disappear from the urine in some rats; in others the effect was less complete but, nevertheless, marked; in rare cases the effect was nil; further, that the most marked effect was observed with four persons who took potatoes with *Glycobacter*. The tabulated results obtained with rats and man are by no means so conclusive as the authors, in their optimism, believe. In two instances in which marked diminution is given, typographic errors are involved. The claims for the combination of *Glycobacter peptolyticus* with *Bacillus bulgaricus* are based on a single experiment of these authors with eleven rats. This experiment is of little value, since in the fifty-three days preceding the administration of mixed culture the phenols dropped from 0.037 to 0.011, and the indoxyl from 0.086 to 0.006 gm. per liter of urine. The subsequent drop on treatment with the mixed bacteria for five days, of phenol to 0.005 and of indoxyl to nondeterminable amounts may have been a continuation of the decline due to the diet. Yet the authors, although they noticed the marked decrease due to the diet, concluded that it was only after the administration of the bacteria that the almost complete disappearance of the phenols and indoxyl was obtained. Although ten years have elapsed since the preceding results of Metchnikoff and Wollman were published, the Glyco-Pepto Manufacturing Company has submitted no confirmatory evidence.

According to the manufacturers of Glyco-Pepto Milk, the therapeutic indications for this product are:

"As a disinfectant to the digestive tube and regulator of the stools."
"In enteritis, infant diarrhea, and chronic disturbances of the gastro-intestinal tract."
"In ulcerations of the stomach, in cutaneous diseases due to digestive troubles."
"After surgical interventions of the digestive tube, after accouchements, in tuberculosis, anaemia and general debility."

These claims appear to be based on the testimonials of Swiss physicians, who refer to the usefulness of the product as "agreeable food," "exquisite in flavor," "easily taken," etc. The preparation may be a pleasing beverage and light food, but there is no acceptable evidence for the many therapeutic claims that are made.

The Council declares Glyco-Pepto Milk inadmissible to New and Nonofficial Remedies.

Correspondence

COOPERATION BETWEEN HOSPITALS AND GENERAL PRACTITIONERS

To the Editor:—Recent comment on the relation of the hospital to the physician has interested me as a student of clinical administration, and I wonder whether a further excursion into the realm of medical idealism is not warranted by modern hospital practice. The growth of the "closed" general hospital has brought a regrettable estrangement between the private practitioner and the hospital. The reason is not far to seek. Opportunities for the stimulation of the scientific spirit are more numerous in hospital than in private practice. Cases in logical series are more readily observed and studied in the hospital. Necessary bedside visits have no financial aspect, and are continuous. The patient is removed from the diverting influences of friends and relatives, whose changeable tactics are the bane of the practitioner. The hospital has a better organization for study, with diagnostic, therapeutic, nursing and technical facilities close at hand. Perhaps this difference in opportunities is a clue to the reason for the existence of what might be considered a class problem in the profession.

The family physician constitutes the backbone of medical practice, as regards the poorer members of the community. The earlier stages of disease are seen by the practitioner, who refers his patient to the hospital if the condition requires

surgical intervention or is progressive and not subject to control with the limited facilities of the home. Poverty alone may be the cause, but more often it is a confession by the physician that he is unable to contribute further to the solution of his clinical problem. This is as it should be. Fairness to the patient demands that the physician obtain for him the counsel of men who work in a more favorable environment, who are better trained, and whose judgment is more mature. But when the practitioner refers his patient to the hospital, how much effort is made by those who are to help in the solution of the problem to learn from him what came before in the clinical course? Is it not reasonable to expect that the physician will know more about the previous history than, for example, a sick child's mother? To ignore the physician is to ignore an opportunity to get at the beginnings of disease. According to Sir James Mackenzie, "Medicine will make but halting progress while whole fields essential to the progress of medicine will remain unexplored, until the general practitioner takes his place as an investigator. . . . He has opportunities which no other worker possesses."

The practitioner is a neglected factor in the proper handling of the case by hospital authorities. Thoughtful physicians will bear witness to the disappointment of the family physician at the lack of cooperation by hospitals. He feels that he is always belittled for failing to make the diagnosis, despite his known limitations. The code of medical ethics seems to cover only the relations of individual physicians to one another and to the patient; it should be interpreted broadly to include the relations between the hospital and the practitioner. The movement, lately begun, to combine the hospital with its dispensary for making a continuous study of the patient might be broadened to include the outside practitioner.

In the absence of proper cooperation between these two classes in the medical profession, a situation arises which bodes no good for medical practice. A vicious circle is soon established. The practitioner, disregarded, misses the necessary stimulus to better effort, and is blamed for his unprogressive attitude toward those who depend on him for relief. Under such tutelage he is regarded as a weak brother, through no fault which his more fortunate confrères are unable to correct. In this respect, medical science confers its benefits on one class alone, and does not include those whom it is most intended to benefit. We are apt to forget that medical progress is a cooperative undertaking. The practitioner has seldom been encouraged to overcome a natural, and it might be more correct to say nurtural, tendency to inertia. The fault is not altogether his.

When a patient is referred by a physician to the hospital, it should be obligatory for the hospital (1) to inform him of the disposition of his patient; (2) to ascertain from him his version of the previous history; (3) to invite him to the wards for the purpose of acquainting him with the hospital findings; (4) to notify him of operation or necropsy, and (5) to notify him when his patient has been discharged. Progressive hospitals are now fulfilling most of these obligations, and have organized conferences, lectures and clinical demonstrations for the purpose of keeping the practitioner in touch with the more recent advances in medical science; but for the greater part the practitioner's story and opinion are still disregarded. The benefits that will accrue to the hospital as well as to the practitioner when the latter is not only permitted but encouraged to have his say as to the earlier stages of disease must be obvious.

The good will of the practitioner is no small asset to any hospital. With closer cooperation, the hospital may expect cases that have been better prepared, studied and recorded by the practitioner before admission. A policy of this sort would put the physician on his mettle, knowing, as he would, the scientific standards of the hospital that welcomes his story and opinion. It would point the way to better medicine, by improving the practitioner's methods of handling his patients and by giving him an opportunity to see the other type of medical practice in which the clinical picture is relatively clearer and more orderly. Hospitals have been known to overlook crucial signs, symptoms and laboratory findings in cases in which the family physician could have helped out. Without his statement, have we the right to regard the record of our case as complete?

My point is that in justice to the patient we should listen to the physician who saw him in the earlier stages of his disease; and, in justice to the physician, this courtesy should be reciprocated. It will spell better medicine when all clinical agencies cooperate to the limit. This must not be interpreted as a plea for the "open" hospital, in which outside physicians are free to treat and to assume full responsibility for cases. The training and experience of hospital staffs should be made freely available to the outsider, if the fundamental obligation of the hospital to teach medicine is to be fulfilled. May I hazard a guess that such a step in hospital policy will break down the spirit of distrust abroad in the world of private medical practice with regard to progressive hospital and dispensary ideas?

Broadly speaking, the conditions under which both the practitioner and the hospital undertake to be of service to the community should not alter their scientific responsibilities toward each other and toward the patient, and for the sake of the next sufferer in line it is our duty to make the clinical biography of the patient complete in every possible detail.

E. M. Bluestone, M.D., New York.

SIMPLEST METHOD OF BLOOD TRANSFUSION IN THE NEW-BORN

To the Editor:—In a recent article (Blood Transfusion by the Citrate Method in Hemorrhages of the New-Born, The Journal, March 10, 1923, p. 678), Falls recommends exposure of the jugular vein for the intravenous administration of the blood.

In an editorial on intraperitoneal blood transfusion (The Journal, March 31, 1923, p. 921), it is stated that Siperstein's method of intraperitoneal blood transfusion "will demand careful consideration in pediatric practice."

In a paper entitled "Blood Transfusion (Citrate Method) in Hemophilia Neonatorum" (*Am. J. Obst.* **77**:933 [June] 1918), I reported five cases in which blood transfusion was given to new-born infants, from 2 to 6 days old. In these cases the median cephalic vein was used. This vein is of fairly good size, even in the new-born. As stated in my paper, in using this method "it is unnecessary to expose the jugular vein or introduce the cannula into the longitudinal sinus." Since 1918 I have used this approach in a considerable number of cases, and I have never failed to administer the blood by this route.

Thus, there is no reason to inject the blood intraperitoneally, a method which is certainly not devoid of danger, especially in the new-born infant.

Richard Lewisohn, M.D., New York.

Eugenic Sterilization.—The matter of segregating, sterilizing, or otherwise rendering nonproductive the degenerate human strains in America is, in accordance with the spirit of our institutions, fundamentally a matter for each state to decide for itself. There is, however, a specialized field in which the federal government must cooperate with the several states, if the human breeding stock in our population is to be purged of its defective parenthood.—H. H. Laughlin, *Social Hygiene* **6**:530 (Oct.) 1920.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF SYPHILIS

To the Editor:—1. Are the accepted ideas on the treatment of syphilis so uncertain as to admit that: (*a*) "Salvarsan should not be given as a routine treatment of syphilis because it does not cure: mercury does" (DeCosta's Surgery). (*b*) "Combined intravenous treatment with arsenic and mercury is to be at once commended. Studies of a great number of cases have shown the advisability of combined treatment" (Manual of Military Urology for the American Expeditionary Forces). (*c*) "Mercury in any form administered in any manner whatsoever has no direct lethal effect on the spirochetes. . . . We prefer not to use arsenic until mercury has had sufficient time to be eliminated from the system. Mercury and arsenic are antagonistic in their action and should not be used together" (*Northwest Medicine*, March, 1923). 2. Is there any ground for the belief that a four plus Wassermann reaction simply means a good resisting power and shows a better prognosis than a negative Wassermann reaction in a known syphilitic?

C. E. EATON, M.D., Seattle.

ANSWER.—These questions raise some of the most pertinent points in antisyphilitic therapy; some are unsettled, and difficult to settle.

1. (*a*) The view that arsphenamin should not be given as a routine treatment for syphilis because it does not cure, while mercury does, is not the generally accepted opinion. The general view is that neither certainly cures in cases in which the disease has existed long enough to become well established as a systemic disease, that is, after the first few weeks of the chancre. But they both tend to cure, and both are valuable in treatment.

(*b*) That treatment with arsphenamin and mercury should be started as soon as the patient is seen is the view held by most syphilologists. When chancres are seen that are unmistakable, as shown by the demonstration of *Spirochaeta pallida*, it is the general opinion that these cases should be vigorously treated, and that there is a good chance of aborting the disease at this time. If early cases are not seen until the Wassermann reaction has become positive, there is a difference of opinion as to how treatment should be carried out. There are thoughtful syphilologists of large experience who believe that these early cases are better treated by mercury alone until the patient has had an opportunity to develop all of the immunity that he is capable of. Everything indicates that mercury does not interfere with his doing this, and that arsphenamin does. After the patient has had time to establish whatever resistance he is capable of, say three months after the Wassermann reaction has become positive, the same syphilologists would then treat with mercury and arsphenamin.

(*c*) The view that mercury has no lethal effect on the spirochete represents the radical position, and is probably not correct. That mercury and arsenic are antagonistic in their effect on spirochetes, we know no reason for believing. The only objection to administering arsphenamin and mercury together is the extra load that is thrown on the kidneys.

2. There might possibly be some ground for the belief that in early syphilis, when the patient is establishing his immunity, a four plus Wassermann reaction would be an evidence that this was going on in a favorable way. In later syphilis we can see no ground for this opinion. The Wassermann reaction is not a specific antibody-antigen reaction, and it is not, therefore, an index of the patient's production of antibodies. The commonly accepted view is that a definitely positive Wassermann reaction means the presence somewhere in the body of active syphilis.

It should be remembered that the advantages of the new treatment of syphilis, in which arsphenamin plays so large a part, are still being studied. The trend of the last few years has been in the direction of placing more reliance on mercury and using arsphenamin secondarily in the treatment of syphilis. It is possible that in the next generation the routine treatment of syphilis will be entirely rewritten.

NEPHRITIN — NEW AND NONOFFICIAL REMEDIES — THE PROPAGANDA FOR REFORM

To the Editor:—1. Can the Council on Pharmacy and Chemistry inform me whether there is any actual merit in the use of "Nephritin" (Reed and Carnrick) for the treatment of the nephritides? If so, in what does the merit lie? 2. Does the Council publish from time to time an alphabetically arranged list of these various trade-named remedies, setting forth the opinion of the Council as to the claims made? There are so many of these remedies (a few of which probably possess merit and warrant our use) that it certainly would be a blessing to be able to refer to the Council's pronouncement upon them. The situation is this: some agent comes in today making big claims for this or that trade-named article. It may be that THE JOURNAL has discussed this particular article some months back. I may not have seen this, or, if I had, have forgotten it. If we could refer to a compilation put out by the Council arranged alphabetically, we could more intelligently select the remedies we wish to use and could make short work of the bombastic claims of some of these agents.

JOHN A. DARROW, M.D., Erie, Pa.

ANSWER.—1. Nephritin was reported on by the Council on Pharmacy and Chemistry in 1907 ("Reed and Carnrick's Methods," THE JOURNAL, Oct. 5, 1907, p. 1198). The following is a summary of this report: The advertising claims for Nephritin are based on the theory that certain granules in the renal cells, called "grains of segregation" and claimed to have been observed microscopically, carry on the secretion of urinary constituents and that a deficiency of them is the cause of nephritis. While Renaut, who formulated the theory, recommended as a cure for nephritis the maceration of fresh kidneys in physiologic sodium chlorid solution, Reed and Carnrick urged objection to the maceration and explained that nephritin represents all the action of the maceration but is fifty times as potent. Nephritin is stated to be "the grains of segregation from the cortex of the pig's kidney, the renal connective tissue being eliminated." It appeared impossible that the microscopic structures claimed to be present in nephritin could be isolated as such from the connective tissues, and, on inquiry by the Council, no information on this point was to be had. Further, the firm presented no evidence for the claimed action of nephritin or for the claim that it was fifty times stronger than the maceration.

2. New and Nonofficial Remedies, 1923, lists and describes the medicinal preparations which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Jan. 1, 1923. This book contains, as addenda, references to proprietary and unofficial articles not described in N. N. R. In the addenda are given references to all published reports of the Council on products which have been examined and found inadmissible to New and Nonofficial Remedies. This book will be sent postpaid for $1.50. The Propaganda for Reform, Vols. 1 and 2, contains all the important reports of the Council on Pharmacy and Chemistry on proprietary remedies offered to the medical profession of the United States. In addition to the reports of the Council, the "Propaganda" contains the more important reports of the American Medical Association Chemical Laboratory on the analyses of proprietary medicines and articles published by THE JOURNAL on proprietary products and on proprietary medicines in general. Volume 1 of the "Propaganda" contains the matter which was published up to and including 1916. Volume 2 contains the material which was published covering the period from January, 1917, to April, 1922, inclusive. Volume 1 will be sent postpaid for $1, and Volume 2 for $2.

Better Milk, Better Health.—If the people of a community are well nourished they will be stronger and better able to fight off disease. Bringing about the observance of laws of sound nutrition should be one of the chief functions at the basis of public health administration. We must, therefore, have a clean, wholesome food supply to begin with. The consumption of more milk per capita is a starting point, for milk is our ideal food. But we must have safe milk before we can recommend its increased consumption. A city will not obtain a safe milk supply until steps are taken to systematize its control. This requires adequate funds, better milk laws, improved organization, and common sense administration.—L. C. Bulmer, *Nation's Health* **5**:131 (March) 1923.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 8-9. Sec., Dr. J. W. Walker, Fayetteville.

GEORGIA: Atlanta, June 6-8. Sec., Dr. C. T. Nolan, Marietta.

IOWA: Iowa City, May 31-June 2. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

MASSACHUSETTS: Boston, May 8-10. Sec., Dr. Charles E. Prior, State House, Boston.

MINNESOTA: Minneapolis, June 5-7. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

NATIONAL BOARD OF MEDICAL EXAMINERS: Written examinations in Class A medical schools. Parts I and II, June 25-27, and June 28-29. Parts I and II, September 24-26, and September 27-28. Secretary, Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Application for these examinations must be made on or before May 15.

NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, State House, Lincoln.

NEVADA: Carson City, May 7. Sec., Dr. S. L. Lee, Carson City.

California June and July Examination

Dr. Charles B. Pinkham, secretary, California State Board of Medical Examiners, reports the oral and written examination held at San Francisco, June 26, and at Los Angeles, July 11-13, 1922. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 168 candidates who took the physicians' and surgeons' examination, 131, including 11 osteopaths, passed, and 37, including 19 osteopaths, failed. One hundred and six candidates were licensed by reciprocity, and 10 candidates received osteopathic licenses by reciprocity. Eight candidates were licensed on government credentials. Of the 29 candidates who took the drugless practitioners' examination, 14 passed and 15 failed. Of the 14 candidates who took the examination to practice midwifery, 10 passed and 4 failed. Three candidates received drugless certificates by reciprocity. One candidate received a license to practice chiropody by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Medical Evangelists	(1922) 78.6, 79, 80.3, 80.3, 81.6, 84.5, 84.7, 85.1, 85.5, 85.9, 85.9, 86.4, 86.8, 87, 87, 87, 87.3, 91.2, 92.1		
College of Physicians and Surgeons, Los Angeles	(1922) 78.3, 78.9, 79.3, 79.5, 79.8, 80.5, 80.8, 81.1, 82.4, 83.4, 83.8, 89.1		
College of Physicians and Surgeons, San Francisco		(1922)	77.1
Stanford University	(1922) 75, 77.8, 80.4, 81.4, 81.5, 82.4, 84, 84.4, 84.8, 85.1, 85.4, 85.5, 85.8, 86.9, 87.3, 87.6, 88.1, 88.6, 89.6, 90.4, 93		
University of California	(1922) 75, 75.8, 76.1, 78.9, 79, 79.3, 79.9, 81.4, 82, 82.4, 82.5, 82.6, 83.1, 83.8, 83.9, 84.2, 84.5, 84.8, 85.3, 85.4, 85.8, 85.8, 85.8, 85.8, 86.1, 86.3, 86.4, 87.1, 87.2, 87.2, 87.4, 87.5, 87.6, 88, 88.8, 89.1, 89.4, 89.4, 89.6, 89.9		
Yale University		(1921)	83.9
Rush Medical College	(1917) 89.5, (1921) 83.1, 88.9, 91, (1922) 81, 81.6, 82.5, 84.3, 86.2		
University of Illinois		(1922) 81.3, 84.6, 84.8,	87.2
Johns Hopkins University		(1921)	84.4
St. Louis University School of Medicine		(1922)	80.3
Washington University		(1922) 85.5,	87.9
Eclectic Medical College		(1922)	79.3
University of Cincinnati		(1922)	85.6
University of Oregon		(1920)	83
University of Pennsylvania		(1921)	81.5
Woman's Medical College of Pennsylvania		(1921)	78.9
University of Texas		(1921)	83.3
Queen's University, Ontario		(1920)	78.5
University of Vienna, Austria		(1901)*	92.8
University of Tübingen, Germany		(1920)*	81.5
Osteopaths	75, 75, 77, 77, 77.2, 77.9, 79, 83.2, 83.8,	85.2,	86.5

College	FAILED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1918) 72.2, (1920) 54.4, (1922) 71.2		
Stanford University		(1920)	71.7
Chicago College of Medicine and Surgery		(1914)	63.4
Hahnemann Medical College and Hospital, Chicago		(1892)	65
Rush Medical College		(1892)	65
Loyola University		(1910)	62.5
College of Physicians and Surgeons, Keokuk		(1890)	55
Grand Rapids Medical College		(1903)	19
Kansas City Homeopathic Medical College		(1900)	52
Marion-Sims College of Medicine		(1899)	53
St. Louis College of Physicians and Surgeons		(1888)	†
St. Louis University School of Medicine		(1921)	71.4
Jefferson Medical College		(1891)	71
University of Pennsylvania		(1878)	64
Western Pennsylvania Medical College		(1892)	50
Undergraduate			69.6
Osteopaths	55.2, 57.7, 61.2, 68.3, 68.5, 68.5, 68.5, 70.2, 70.5, 71.1, 71.3, 71.3, 71.5, 72.5, 72.5, 73, 73.2, 73.3, 73.5		

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Los Angeles		(1921)	Wisconsin
George Washington University		(1905)	Montana
American College of Medicine and Surgery		(1904)	Illinois
Bennett College of Eclectic Medicine and Surgery		(1888)	Illinois
Bennett Medical College	(1909) Illinois, (1913) Washington, (1914) West Virginia		
Chicago College of Medicine and Surgery		(1908), (1915)	Illinois
Chicago Homeopathic Medical College		(1889)	Iowa
College of Physicians & Surgeons, Chicago	(1901) Iowa, (1902) Minnesota, (1907) Illinois		
Loyola University		(1917, 2)	Illinois
Northwestern University		(1909), (1910)	Illinois
Northwestern Univ. Woman's Medical School		(1893)	Indiana
Rush Medical College	(1889) Arizona, (1897), (1902), (1903, 2) Illinois, (1903) Indiana, (1911) Iowa, (1913) Illinois, (1914) Arizona		
University of Illinois		(1913) Texas, (1916)	Illinois
Central College of P. & S., Indianapolis		(1897)	Indiana
Indiana University		(1909)	S. Dakota
College of P. & S., Keokuk		(1890) Oregon, (1897)	Oklahoma
Keokuk Medical College		(1898)	Iowa
State Univ. of Iowa College of Medicine		(1906)	Montana
State Univ. of Iowa Coll. of Homeo. Medicine		(1910)	Oregon
Kansas Medical College, Topeka		(1902), (1912)	Kansas
University of Kansas		(1920)	Kansas
Kentucky School of Medicine		(1907)	Virginia
Louisville Medical College		(1896)	Missouri
University of Louisville Medical Department		(1915)	Arizona
Bowdoin Medical School		(1915)	Maine
Medical School of Maine		(1899)	Maine
Baltimore Medical College		(1903)	Washington
College of Physicians and Surgeons, Baltimore		(1910)	Montana
Johns Hopkins University		(1911)	Maryland
Maryland Medical College		(1904) West Virginia, (1909)	Illinois
Boston University		(1892)	Dist. Colum.
Detroit College of Medicine and Surgery		(1920)	Michigan
University of Michigan Medical School	(1900) Montana, (1902), (1904), (1915) Michigan		
Univ. of Mich. Homeo. Medical School		(1913)	Michigan
University of Minnesota		(1901) North Dakota, (1907)	Washington
Barnes Medical College		(1904	Missouri
Ensworth Medical College		(1903)	Missouri
Kansas City Medical College		(1905)	Kansas
Missouri Medical College	(1886) Minnesota, (1896) Missouri, (1898) Iowa		
National University of Arts and Sciences		(1912), (1914)	Missouri
St. Louis College of Physicians and Surgeons		(1904), (1919)	Missouri
St. Louis University School of Medicine		(1904)	Illinois
University Medical College of Kansas City		(1906)	Missouri
Creighton University		(1902) Iowa, (1905), (1910), (1917)	Nebraska
University of Nebraska		(1912)	Nebraska
Dartmouth Medical School		(1912)	Mass.
Albany Medical College		(1909)	New York
Bellevue Hospital Medical College		(1887)	Montana
Columbia University		(1916) Kansas, (1919) Alaska,	New York
Cornell University		(1900)	New York
Fordham University		(1917)	New York
Long Island College Hospital		(1905), (1907)	New York
Univ. and Bellevue Hospital Medical College		(1904	New York
Woman's Medical College of the New York Infirmary for Women and Children	(1897) New York		
Cleveland Pulte Medical College		(1912)	Ohio
Medical College of Ohio		(1886)	Ohio
Jefferson Medical College	(1888) Colorado, (1897), (1911) Utah, (1913) Pennsylvania		
Medico-Chirurgical College of Philadelphia		(1905)	Penna.
University of Pennsylvania		(1891)	Penna.
Woman's Medical College of Pennsylvania		(1908)	New Jersey
Medical College of the State of South Carolina		(1904)	S. Carolina
University of Tennessee		(1914)	Oklahoma
Vanderbilt University		(1916) New York, (1917	Tennessee
University of Vermont		(1884)	New York
University of Virginia		(1896)	S. Carolina
Milwaukee Medical College		(1900)	Wisconsin
University of Lille, France		(1887)*	Michigan
Aichi Prefecture Special Medical School, Japan		(1908)*	Nevada
Kyota Imperial University, Japan		(1910)*	Colorado
Osteopaths: Colorado (1), Connecticut (1), Iowa (1), Kansas (1), Michigan (1), Minnesota (1), Missouri (2), Nebraska (1), Wisconsin (1)			

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Chicago College of Medicine and Surgery		(1913)	U. S. Army
Tulane University		(1914)	U. S. Army
Harvard University		(1902) U. S. Navy, (1916)	U. S. Army
University of Michigan Medical School		(1903)	U. S. Army
Kansas City Medical College		(1898)	U. S. Army
Jefferson Medical College		(1901) U. S. Army, (1908)	U.S. Navy

* Graduation not verified.
† No grade given.

Arkansas November Examination

Dr. C. E. Laws, secretary, Arkansas Eclectic Board of Medical Examiners, reports the written examination held at Little Rock, Nov. 14, 1922. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Of the 3 candidates examined, 2 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgia College of Eclectic Medicine and Surgery		(1909)	86.5
Kansas City College of Medicine and Surgery		(1921)	92.3

College	FAILED	Year Grad.	Per Cent.
Kansas City College of Medicine and Surgery		(1922)	67.6

Book Notices

A MANUAL OF CLINICAL LABORATORY METHODS. By Clyde Lottridge Cummer, Ph.B., M.D., Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University. Cloth. Price, $5.50. Pp. 484, with 144 illustrations. Philadelphia: Lea & Febiger, 1922.

In offering this manual for the use of students and practitioners, the author states that the object is to present clinical laboratory methods in concise and accessible form. While devoted largely to a description of methods, the underlying principles, the indications for performing tests and the significance of the results are outlined. Accordingly, the plan adopted in most chapters has been to present (1) an outline of routine examinations; (2) a description of the simpler qualitative methods that are frequently employed; (3) a description of quantitative methods or those of intricate technic, and (4) a discussion of findings in various morbid conditions. When several methods are given, usually the preferred one is indicated. The book deals with the examination of the blood, the urine, the gastric and duodenal contents, the feces, the sputum and the body fluids and exudates, and outlines the various bacteriologic methods; an appendix describes the preparation of normal solutions and various stains, the equipment for laboratories, and the preparation of autogenous vaccines; it gives various tables, and includes a fairly complete bibliography of the larger works on clinical diagnosis, as well as of many of the more recent monographs dealing with special phases of the work. The subject-matter of the book has been well selected; the discussions are clear, concise and easily followed; the methods given for the various tests are the well established and accepted ones, and the author's recommendations as to the best test for any specific purpose are well considered. The many illustrations are adequate and satisfactory. While not as extensive and complete in scope as some of the other works on this subject, this book covers the field in a satisfactory manner, and should find wide use by practitioners and students as well as by teachers who wish to have a clear-cut and concise presentation of the subject for the routine work of their laboratories.

CLINICAL LABORATORY METHODS. By Russell Landram Haden, M.A., M.D., Associate Professor of Medicine, University of Kansas School of Medicine. Cloth. Price, $3.75. Pp. 294, with 74 illustrations. St. Louis: C. V. Mosby Company, 1923.

This book describes "a series of procedures which have been thoroughly tried out and found to give accurate results." The interpretation of results is not attempted. It is most complete and most useful on the chemical side. The chapter on serologic technic includes the Wassermann test, the agglutination test of typhoid bacilli, the typing of pneumococci, blood tests for transfusion, and that is all. Nothing whatever is said of meningococci, of true complement fixation, of cutaneous reactions, of the Shick test; the Jansky isoagglutinative grouping is not mentioned; the Widal reaction is defined erroneously as "a procedure by which the agglutinating power of a serum against any organism may be tested." The chapter on histologic technic is very brief, but includes more than a page on the staining of mitochondria, and the question arises, How often is the clinical laboratory called on to examine for mitochondria?

DIE FRIEDMANN-METHODE. Kritische beleuchtet unter Berücksichtigung der gesamten Friedmann-Literatur. Referat erstattet im Auftrag des staatlichen Ausschusses zur Prüfung des Friedmannschen Heil- und Schutzmittels gegen Tuberkulose. Von Sanitätsrat Dr. Victor Bock, Facharzt für Lungenkrankheiten in Berlin. Mit einem Vorwort von Geh. Rat Prof. Dr. F. Jessen-Davos. Paper. Pp. 157. Leipsic: S. Hirzel, 1922.

Those who witnessed the Friedmann fiasco here in 1910 will be surprised to learn that "through the Friedmann method the antituberculosis problem in its fundamentals has been solved," provided cases are submitted to its beneficent action early enough. Bock would frankly subject all early cases to the treatment, and would not be averse to vaccinating entire populations by way of prophylaxis. In accord with Jessen of Davos, who contributes a foreword to the book, he considers it the most active immunizing material at our command today. Its cheapness, which Bock stresses as one of its great advantages, will be vigorously contested, to be sure, by various disappointed sufferers on this side of the Atlantic; nor will there be universal agreement with the statement that "almost all authors who have made extended trial of the material recognize its brilliant therapeutic action, and only occasionally is its inactivity recorded." A good many dissenting votes have been cast, in Germany as well as here. Granting that the increasing literature on the Friedmann treatment warrants its being taken seriously, the fact remains that proof has not yet been forthcoming that injection of a bacillus, having in common with the tubercle bacillus little more than a tinctorial property and a qualitatively somewhat similar antigenic value in complement fixation tests, stimulates resistance to the invasion of the tubercle bacillus. The bulk of scientific, experimental evidence indicates that for immunity real infection with the bacillus is necessary. This the turtle bacillus does not achieve. The fundamental failure in statistical evidence, such as is here presented, is the lack of realization that 90 per cent. of all human tubercle infection becomes quiescent, or nearly so, without treatment. Patients who do well on the Friedmann treatment will improve in the same proportion without it, if proper hygienic measures are employed. At least Bock cites no control observations to prove the opposite. Many typographic errors occur in the text.

A HANDBOOK OF AURAL SURGERY FOR STUDENTS AND PRACTITIONERS. By William Wilson, M.D., B.Sc., Surgeon to St. John's Hospital for the Ear, Manchester. Cloth. Price, 15 shillings. Pp. 336, with 100 illustrations. Manchester: Sherratt & Hughes, 1922.

The surgical anatomy of the ear is treated with considerable detail, and is accompanied by many excellent sketches, diagrammatic and otherwise, illustrating the important facts. Next is a discussion of the physiology of the ear with a fairly complete discussion of the functional tests. More is told in this regard than is usually found in the large textbooks on otology. Various diseases, beginning with those of the skin of the external auditory meatus, and continuing with those of the various inflammatory affections of the external ear and then those of the middle and internal ear, are taken up. Considerable space and discussion are given to cholesteatoma and to the intracranial complications of inflammatory ear conditions. Malingering, deaf mutism, and toxic effects of drugs on the ear, together with artificial aids to hearing, are discussed in the last chapter. As an appendix, the author cites the essentials of a number of cases illustrating unusual instances of aural suppuration. These are interesting and informative. Of considerable assistance in finding the essential facts is the presence at the sides of each page of notes in bold type emphasizing the important points made in the respective paragraphs. Altogether, one may say that this book, though small, is a veritable compendium of information to those who have not the time or the occasion to consult the large works on otology.

THE ORIGIN AND EVOLUTION OF THE HUMAN DENTITION. By William K. Gregory, Ph.D., Associate Professor of Vertebrate Palæontology, Columbia University. Cloth. Price, $6.50. Pp. 548, with 353 illustrations. Baltimore: Williams & Wilkins Company, 1922.

The purpose of this book is to give a brief and concise review of the origin and evolution of the human dentition from the point of view of paleontology. Dr. Gregory follows the development of the teeth from their far-off beginning in the fishes, through their amphibian and reptilian descendants to the mammals. He shows, as Osborn has, that the supremacy of the mammals and their rapid domination in evolution was due to the fact that they possessed a tooth, derived from their reptilian ancestor, "that was capable of adaptive evolution." Dr. Gregory shows in a most interesting way the relation of the development of the denture to our knowledge of the evolution of the anthropoid apes and the ancestor of man. The arrangement of the material and the excellence and number of the illustrations greatly facilitate the study, to one not already well acquainted in the field. The work will be a classic, for it deals broadly and fundamentally with the subject, and is of the most scholarly and scientific character. The book has not only important practical value to every student of dentistry and orthodontia, but is of the

keenest interest to every student of evolution. Dr. Gregory has generously arranged that the proceeds from the sale of the book shall go to the endowment fund of the *Journal of Dental Research*.

THE BACTERIOPHAGE: ITS RÔLE IN IMMUNITY. By F. d'Herelle, Pasteur Institute. Authorized Translation by George H. Smith, Ph.D., Assistant Professor of Bacteriology and Pathology, Yale University School of Medicine. Cloth. Price, $4. Pp. 287, with 14 illustrations. Baltimore: Williams & Wilkins Company, 1922.

One of the most interesting discoveries in bacteriology during recent years is the "bacteriophage phenomenon," or the bacteria-dissolving power possessed by Berkefeld filtrates from the stools of dysentery and typhoid convalescents and from other sources. Although antedated by Twort's work, d'Herelle's publications first drew general attention to the phenomenon, and the zeal with which the latter worker has pursued the subject has made it peculiarly his own. His book on the bacteriophage, which appeared in October, 1921, has now been translated into English, and will undoubtedly stimulate American bacteriologists to further work in this field. The author maintains his view, enunciated in his first publication in 1917, that the lytic element obtained by him from dysentery stools is an ultramicroscopic living organism parasitic on bacteria. Since this view has not been generally accepted, the prevailing opinion regarding the bacteriophage as a bacteriolytic enzyme, it is of value to have in a readily accessible form the imposing volume of careful and ingenious experimentation on which d'Herelle bases his belief. The translation is clear and readable. "Diastase" is used as synonymous with "enzyme," and there are a few other Gallicisms; but, on the whole, the work of the translator is exceptionally well done. The book is well printed.

SYPHILIS OF THE INNOCENT. A Study of the Social Effects of Syphilis on the Family and the Community, with 152 Illustrative Cases. By Harry C. Solomon, B.S., M.D., Chief of Therapeutic Research, Boston Psychopathic Hospital, and Maida Herman Solomon, A.B., B.S., Research Social Worker, Boston Psychopathic Hospital. Cloth. Pp. 239. Washington: United States Interdepartmental Social Hygiene Board, 1922.

The term "innocent," as here used, applies to infections of a mate or offspring and to accidental extragenital inoculations. The work is based on the investigation of 555 families at the Boston Psychopathic Hospital, supplemented with an excellent selection of facts and figures from the literature. It is evidently designed for the use of persons interested in public welfare, and is written in language that will be intelligible to the public at large. The material is analyzed in a strikingly fair and impartial manner, with a welcome absence of exaggeration and sensationalism. This calm array of the facts in coldly scientific tabulations, with the brief exposition of illustrative cases, is far more impressive and educational than a more dramatic presentation. The issues are nowhere forced, and the authors cannot be accused of either undue pessimism or unfounded optimism. The deadly menace to innocent bystanders stands out in glaring relief, and the book should do much to further the cause of prevention and adequate treatment for which it was written. For the physician and student, it is full of useful suggestions and statistics of eminently practical kind. The material is well arranged, with copious and well chosen heads, and there is a good index.

ECTODERMOSES NEUROTROPES POLIOMYÉLITE ENCÉPHALITE HERPÈS. Étude Clinique, Epidémiologique, Histo-Pathologique et Expérimentale. Par C. Levaditi. Préface de E. Roux. Paper. Price, 24 francs. Pp. 269, with illustrations. Paris: Masson et Cie, 1922.

This is a monograph by one of the best known workers of the Pasteur Institute, whose name is familiar to laboratory workers on account of his discovery of a staining method for *Spirochaeta pallida*. The book sets forth clearly the epidemiologic, immunologic, bacteriologic, histologic and clinical differences and similarities between a group of diseases caused by a filtrable virus; namely, poliomyelitis, epidemic encephalitis, rabies and herpes. The author relates the experiments and sets forth the arguments on which are based his theory that ordinary herpes febrile (not herpes zoster) and encephalitis are caused by the same virus, the degree of virulence of which determines whether the victim is to suffer from the minor or the major ailment.

Medical Economics and Miscellany

IDAHO OSTEOPATHS MAY NOT PRACTICE SURGERY

The supreme court of Idaho, in the *State of Idaho* v. *Sawyer*, March 31, affirms a judgment holding the defendant, a licensed osteopath, guilty of practicing medicine and surgery, in that he made an incision into the abdomen of a human being and removed the appendix.

The New Standard Dictionary, said the court, defines osteopathy as follows:

> A system of treating disease without drugs, propounded by Dr. A. T. Still, 1874. It is based on the belief that disease is caused by some part of the human mechanism being out of proper adjustment, as in the case of misplaced bone, cartilage, or ligament, adhesions or contractions of muscle, etc., resulting in unnatural pressure on or obstruction to nerve, blood or lymph. Osteopathy . . . seeks to adjust correctly the misplaced parts by manipulation . . .

And Adjudged Words and Phrases defines osteopathy as:

> A method of treating diseases of the human body without the use of drugs, by means of manipulations applied to various nerve centers—chiefly those along the spine—with a view to inducing free circulation of the blood and lymph, and an equal distribution of the nerve forces. Special attention is given to the readjustment of any bones, muscles and ligaments not in the normal position.

The court concludes, therefore, that osteopathy is a system of treating diseases of the human body without drugs and by means of manipulation, and that "manipulation" certainly does not cover and include the practice of surgery in any form. The supreme court sustained a ruling of the trial court refusing to receive evidence on behalf of the osteopathic defendant to show that the standard and accredited colleges of osteopathy include medicine and surgery as part of their curriculums, that the science or practice of osteopathy contemplates and comprehends the practice of medicine and surgery, and that the colleges of osteopathy use the same textbooks on the practice of medicine and surgery that are used in the best recognized medical schools, and devote as much time to the subject as is consumed in the best "allopathic" colleges. The purpose of the proposed testimony, said the supreme court, was to show that graduates of recognized and accredited colleges of osteopathy now possess the requisite knowledge and skill to engage in the practice of medicine and surgery, but the only question before the court was whether the defendant possessed the statutory qualifications, and the evidence was therefore irrelevant.

CHIROPRACTOR LIABLE FOR CARE, SKILL AND KNOWLEDGE IN DIAGNOSIS

Chiropractic quibbling may not avail a chiropractor in Wisconsin, who through negligence, ignorance or unskilfulness fails to diagnose the disease from which his patient is suffering, according to a decision of the supreme court of Wisconsin, April 3, in the case of *Kuschler* v. *Volgmann;* and in diagnosing a case, a chiropractor must exercise the care and skill that is usually exercised by a recognized school of the medical profession. The fact that chiropractors abstain from the use of words like "diagnosis," "treatment" or "disease," said the court, is immaterial. What they hold themselves out to do and what they do is to treat disease, and the substitution of words like "analysis," "palpation" and "adjustment" does not change the nature of their act.

The plaintiff, suffering from nausea, nervousness and headache following a head injury, applied to the defendant, a chiropractor, in September, 1918, for relief and cure. The chiropractor, believing that the nervousness and headache were due to a derangement of the stomach, treated him accordingly. Treatment proved unavailing, and the chiropractor advised the plaintiff, in May, 1919, to go West, in the hope of relief. The plaintiff did so, but the headaches and dizziness, from which he continually suffered, became more severe, and finally he became at times blind. Sept. 10, 1919, the plaintiff presented himself for treatment at a hos-

pital in Chicago, and there his malady was immediately diagnosed as a brain tumor. An operation was done simply to relieve the intracranial pressure, for because of the long time the tumor had been allowed to grow, it was impossible to remove it.

The chiropractic defendant was charged with responsibility because of alleged negligence and want of understanding and skill. He demurred to the declaration, on the ground that one who treats the sick and injured is entitled to be judged according to the principles and methods employed by the school or sect to which he belongs, and he claimed that he had treated the plaintiff according to the methods used by chiropractors. The demurrer was sustained in the lower court. On appeal, the supreme court of Wisconsin said that had the complaint been grounded on neglect or unskilfulness in treatment only, the action of the trial court would have been correct. The complaint alleged, however, neglect or unskilfulness in diagnosis. While the duty of diagnosis is ordinarily assumed and performed by licensed physicians, it may be assumed by others, and the defendant having assumed to perform that duty was bound to exercise the care and skill in so doing that is usually exercised by a recognized school of the medical profession. The supreme court, therefore, overruled the demurrer and remanded the case to the trial court for further proceedings.

THE LIGHTING OF POST OFFICES

At the request of the Postmaster General, a survey on the lighting of post offices was made in the fall, winter and spring of 1921-1922 by the U. S. Public Health Service, to determine whether the prevailing illumination in post offices is sufficient for efficient performance of the work and the welfare of the employees, and what the intensity and type of illumination for post office work in general should be. An old and a comparatively new post office were selected for intensive study. Brief surveys were made also of a few other post offices; 4,786 persons were employed in the offices where the principal survey was made and where the working conditions were believed to be representative of post offices in generally below the state codes of lighting requirements, and eye specialist, who was assisted by a physicist, illuminating engineers, and other scientific assistants.

The illumination in the post offices studied was found to be low in intensity and unsatisfactory in quality. Glare was prominent, shadows numerous, and lights improperly spaced and improperly located. The actual mean illumination was generally below the state codes of lighting requirements, and generally lower than the mean illumination furnished employees doing similar work in private industries. It was concluded that the installation of proper illumination would result in a large pecuniary saving, and would conserve the eyesight of employees.

Among other things recommended, there should be installed, in the general workrooms and offices, systems of totally enclosing units of the diffusing or light-directing type, having a general intensity when first installed of 10 foot-candles everywhere on a horizontal working plane 45 inches above the floor. All local lighting should be done away with. The eyes of post office employees should be examined once a year, and any defects should be recorded. In work requiring fine eye discrimination, such as that in the directory division, only persons with normal eyesight, at least in one eye, with or without corrective lenses, should be employed.

In 1921, the total cost of illumination in a post office whose intensity was 3.6 foot-candles was $32,921. To have increased the light in this post office to 8 foot-candles would have cost, for the year, $72,490, an increase of about $39,500. But it was found that the better illumination would have increased the speed at which employees did their work at least 4.4 per cent. The pay of employees for that part of 1921 during which artificial light was used amounted to about $3,373,000, on which a saving of 4.4 per cent. would have been $148,400. Deducting from this saving of $148,400 the increased cost of $39,500 gives a net saving of $109,000 for this post office alone, or more than twice the increased cost of illumination.

Medicolegal

Dying Declarations in Prosecution for Attempting to Cause Miscarriage

(State v. Bricker (N. J.), 118 Atl. R. 747)

The Supreme Court of New Jersey, in affirming a judgment of conviction of the defendant of having attempted to cause the miscarriage of a pregnant woman, in consequence whereof she died, holds that when an indictment charges a defendant with such statutory misdemeanor, the dying declarations of the woman are legal evidence on trial of the case. The court says that in this case two statements were offered in evidence as dying declarations. Both were made by the woman while in bed in a hospital, suffering from septic peritonitis. Both were made when all about her thought that she was dying, although she was conscious and mentally alert. The first declaration was made thirty-four hours before death, and immediately before making it, she said that she was conscious of approaching death, and knew that she had "no chance of recovery." The second declaration was in writing, gathering up in narrative form the oral statements. It was read to her, and assented to and signed by her with a cross, three hours before death. In it, she said, "I am approaching death within a few hours and without any hope of recovery whatever." It is held that the trial judge was justified in finding that both declarations were made under a sense of impending death, and in admitting them in evidence. It is the state of mind and the sense of impending death at the time of making the declaration, and not the fact of quick succession of death after the declaration, that makes a dying declaration admissible in evidence.

Judgment Against One of Two Physicians Not Justified

(Drew v. Cregar et al (N. J.), 118 Atl. R. 844)

The Court of Errors and Appeals of New Jersey says that, in this action brought by the plaintiff as an administrator, the defendants were physicians called by him to attend his wife in childbirth. At the time of her confinement, Dr. Cregar was ill, and the other defendant, Dr. Pratt, was the physician actually in attendance. In the course of treatment, Dr. Pratt had to deal with an adherent placenta, which the jury may have found was due to the fact that the husband, shortly before the confinement of his wife, was affected with gonorrhea. The jury found in favor of Dr. Pratt, and against Dr. Cregar; and when the trial judge asked whether the finding was such that the negligence on which the verdict was based was that for which Dr. Cregar himself was responsible, in which Dr. Pratt did not participate, the foreman answered, "Yes." The finding therefore was that Dr. Cregar was not liable on the theory of responsibility for Dr. Pratt's negligence. The question, then, was whether the case was such that Dr. Cregar could be held for negligence, since the jury had negatived the liability of Dr. Pratt, so that Dr. Cregar could not be held on the theory of respondeat superior (let the superior answer).

The judge had charged that, if the jury was satisfied that it was Dr. Cregar's duty to advise the physician to whom he had turned over the case of the condition that existed: that the husband had gonorrhea and that there was a possibility of infection from it; and that if the jury was satisfied that this condition had a direct bearing on the woman's death, the jury might determine whether that was negligence on the part of Dr. Cregar as a physician, and whether he had exercised that care which a physician should in these circumstances. That warranted the jury in finding a verdict in favor of Dr. Pratt, and against Dr. Cregar alone. Without regard to whether the judge was otherwise warranted in charging on that point as he did, the court is of the opinion that under the pleadings he was not. The complaint was against both physicians, and averred that Dr. Cregar delegated Dr. Pratt as his agent to attend the plaintiff's wife and to deliver her of the child; that it was the duty of Dr. Cregar, by his agent and servant, Dr. Pratt, to carefully,

skilfully and in a proper manner treat and attend the plaintiff's wife and deliver the child; that the defendants did not remove the placenta within a proper time and in a skilful and proper manner, and that the body of the plaintiff's wife became infected thereby, her death following. Clearly, the complaint did not aver negligence on the part of Dr. Cregar alone and apart from Dr. Pratt; nor did it aver the negligence on which the trial court allowed the jury to find against Dr. Cregar for failure to perform his duty in advising Dr. Pratt of the condition that existed and the fact that the husband had gonorrhea. For very obvious reasons, the husband was not likely to desire the case to be tried on the theory that he was responsible for his wife's death; but Dr. Cregar was entitled to be apprised of the ground on which he was to be held, and entitled to have the issue tried limited to the issue made by the pleadings—the issue he was alone bound to defend. The jury, as the case was tried, held him liable on a ground outside the scope of the case.

Because, under the circumstances, it was erroneous to charge that the plaintiff might recover of Dr. Cregar for his own negligence, and acquit Dr. Pratt, the judgment rendered against Dr. Cregar is reversed.

Waiver of Privilege in Personal Injury Case

(Kraus v. Sobel (N. Y.), 196 N. Y. Supp. 845)

The Supreme Court of New York, Appellate Division, First Department, says that, in this action to recover damages for personal injuries, the plaintiff furnished a detailed description of his injuries in a bill of particulars; testified fully concerning his injuries and, so far as he was able, the treatment he had received; produced a roentgenogram taken at the hospital, and also called as an expert a physician who had made a physical examination of him and who testified very fully as to the condition in which he found the plaintiff. Thus, the plaintiff himself gave to the public the full details of his case. Subsequently, the defendant called the physician attached to the hospital to which the plaintiff was taken; but when the physician was interrogated concerning the case, the trial court sustained an objection on the ground that the physician could not disclose any information which he acquired in a professional capacity. Such a ruling was in line with earlier decisions; but the Court of Appeals in *Capron* v. *Douglass*, 193 N. Y. 11, 17, 85 N. E. 827, altered the rule of the earlier cases, and held that, when the plaintiff testifies to his injuries and their results, and it appears that he has been treated by a physician in regard to them, the physician may then be called by the defendant and examined as to any information acquired by him in the course of such consultation or treatment. When, therefore, "the patient tenders to the jury the issue as to his physical condition, it must in fairness and justice be held that he has himself waived the obligation of secrecy which would otherwise exist" (*Herthier* v. *Johns*, 233 N. Y. 370, 135 N. E. 603). It was therefore error to exclude the physician's testimony, and the judgment recovered by the plaintiff is reversed and a new trial ordered.

Cancer in Throat Attributed to Injury to Hand

(Vanderslice v. Young et al. (N. Y.), 197 N. Y. Supp. 9)

The Supreme Court of New York, Appellate Division, Third Department, was divided, three members to two, in deciding this appeal from an award made under the workmen's compensation law to Mrs. Vanderslice for the death of her husband. According to the dissenting opinion, the decedent had been employed opening oysters, and in the use of a knife therefor had developed a callous on the palm of one hand, on which there appeared a blister. The blister was about a week in developing, and broke, November 9, when the hand started to swell. He was attended by a physician who found an infection so deep that he went halfway through the hand in establishing drainage. The physician attended the man four times, as a result of which the drainage was lessened so much that he felt the patient could take care of himself. The man went back to work, December 11, but his hand remained very sore and weak. In March, he told a second physician that a red streak ran up his arm from his wrist to his armpit. His widow swore that she saw that streak. In May, this second physician found a small lump at the side of the man's neck, and the glands began to swell. July 26, the physician operated on the man's neck and evacuated 4 ounces of pus. An examination of the throat revealed a cancerous condition of the glands, a small cancer at the base of the tongue and another on the tonsil. Thereafter, the condition of the patient became worse; he had a succession of hemorrhages, and died, August 29. That physician and another one who treated the patient in his last illness connected the injury to the hand with the man's death; and the industrial commission found as a fact that, as the result of the irritation and inflammation caused by the infection produced by the injury, a cancer developed in the glands and spread to the tongue and tonsil; that death was the result of a hemorrhage caused by the cancer, but the proximate cause of death was the injury received, November 10. The decision of the court is stated in these few words: "Award affirmed on the ground that the proof made an issue of fact as to the cause of death, and the findings of the state industrial board on that issue in favor of claimant are conclusive; with costs in favor of the state industrial board."

Society Proceedings

COMING MEETINGS

American Association for Thoracic Surgery, Chicago, May 28-29. Dr. Charles Gordon Heyd, 46 W. 52d Street, New York City, Secretary.
American Association of Physicians, Atlantic City, May 1-3. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.
American Bronchoscopic Society, Atlantic City, May 9. Dr. William B. Chamberlin, Osborn Building, Cleveland, Secretary.
American Climatological and Clinical Association, Niagara Falls, Ont., May 23-25. Dr. Arthur K. Stone, Framingham Center, Mass., Sec'y.
American Gastro-Enterological Association, Atlantic City, April 30-May 1. Dr. Arthur F. Chace, 525 Park Ave., New York, Secretary.
American Gynecological Society, Hot Springs, Va., May 21-23. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.
American Laryngological Association, Atlantic City, May 16-18. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.
American Laryngological, Rhinological and Otological Society, Atlantic City, May 10-12. Dr. W. H. Haskin, 40 E. 41st St., New York, Sec'y.
American Orthopedic Association, Rochester, N. Y., June 7-9. Dr. DeForrest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Pediatric Society, French Lick, Ind., May 31-June 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.
American Society for Clinical Investigation, Atlantic City, April 30. Dr. James H. Means, 15 Chestnut Street, Boston, Secretary.
American Urological Association, Rochester, Minn., May 21-23. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Ind., Secretary.
Connecticut State Medical Society, New Haven, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Georgia, Medical Associaton of, Savannah, May 2-4. Dr. Allen H. Bunce, Healey Building, Atlanta, Secretary.
Hawaii, Medical Society of, Honolulu, April 28-30. Dr. W. K. Chang, Honolulu, Secretary.
Illinois State Medical Society, Decatur, May 15-17. Dr. W. D. Chapman, Silvis, Secretary.
Iowa State Medical Society, Ottumwa, May 9-11. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.
Kansas Medical Society, Kansas City, May 2-4. Dr. J. F. Hassig, 800 Minnesota Avenue, Kansas City, Secretary.
Louisiana State Medical Society, New Orleans, April 24-26. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maine Medical Association, Houlton, June 5-7. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 24-26. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Massachusetts Medical Society, Pittsfield, June 12-13. Dr. W. L. Burrage, 182 Walnut Street, Brookline 46, Boston, Secretary.
Mississippi State Medical Association, Vicksburg, May 8-9. Dr. T. M. Dye, Clarksdale, Secretary.
Missouri State Medical Association, Joplin, May 8-10. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.
Nebraska State Medical Association, Lincoln, May 14-17. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.
New Hampshire Medical Society, Concord, May 23-24. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
North Dakota State Medical Association, Grand Forks, May 31-June 1. Dr. H. J. Rowe, Lisbon, Secretary.
Ohio State Medical Association, Dayton, May 1-3. Mr. D. K. Martin, 131 East State Street, Columbus, Secretary.
Rhode Island Medical Society, Providence, June 7. Dr. I. W. Leech, 369 Broad Street, Providence, Secretary.
Texas, State Medical Association of, Fort Worth, May 8-10. Dr. Holman Taylor, 207½ W. 11th Street, Fort Worth, Secretary.
West Virginia State Medical Association, Beckley, June 12-14. Dr. Robert A. Ashworth, Moundsville, Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

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*Tumors of Breast. J. F. Erdmann, New York.—p. 116.
*Cervix a Focal Point of Infection. G. K. Dickinson, Jersey City, N. J. —p. 124.
Radium in Treatment of Uterine Hemorrhage of Nonmalignant Type. E. A. Weiss, Pittsburgh.—p. 128.
Present Status of Surgery in Treatment of Fibromyoma of Uterus. S. E. Tracy, Philadelphia.—p. 135.
Pathologic Reaction of Tissue Extract (Cytost) Liberated in Pregnancy. F. B. Turck, New York.—p. 139.
*Does Menstruation Influence Blood Concentration? M. Tyler and F. P. Underhill, New Haven, Conn.—p. 155.
*Spontaneous Rupture of Body of Uterus During Pregnancy. H. F. Kane, Washington, D. C.—p. 158.
Cause of Tubal Pregnancy and Tubal Twinning. L. B. Arey, Chicago. —p. 163.
Case of Labor Complicated by Ovarian Cyst and Smallpox; Operation; Spontaneous Delivery: Recovery. R. A. Bartholomew, Atlanta, Ga. —p. 168.
Service of Obstetric Clinic to Community. A. H. Morse, New Haven, Conn.—p. 170.
Management of Placenta in Abdominal Pregnancy; Case Report. W. A. Jewett, Brooklyn.—p. 176.
An Anal Shield. J. P. Greenhill, Chicago.—p. 182.
*Benzin and Iodin vs. Soap and Water Scrub in Preparation of Parturient Women for Delivery. F. C. Irving, Boston.—p. 184.

Tumors of Breast.—Erdmann emphasizes his belief that a growth in the remaining breast is as likely to be of primary origin as that in the breast first removed. At the present day it is not possible to state what is the influence of the roentgen ray and of radium, either as a preoperative or postoperative aid, but in view of many apparent reductions in size, etc., previous to operation in cases considered nonoperable, the use of the roentgen ray and of radium should be encouraged. Even in view of some of the glowing reports regarding nonrecurrence, postoperative treatment should be substituted for preoperative treatment, until some definite proof of its help or inefficiency has been established; too few years have passed for positive results to be shown. Further, in the presence of late metastases, the powerful currents of the present day should be given a thorough test to prove or disprove the efficiency of this method of treatment. The most thorough and painstaking wide removal, with remote glandular and fascial dissections, will tend more and more to increase the percentage of cures and extension of life. The radical operation is attended with so low a mortality as to promote a greater desire on the part of the consulting physician to demand operation.

Cervix a Focal Point of Infection.—Dickinson points out that those physicians who have made an intensive study of their patients for focal infection, who have removed teeth, tonsils, appendix, gallbladder and colon, have occasionally given relief by attention to the cervix. He cites an instance of what was a very evident case of such focal infection. Not realizing that there was any relation between the cervix and the patient's miserable condition, no particular study was made of the endometrium. The cervix was not hyperplastic; there was no laceration; the mucosa was not exuberant, nor of abnormal appearance; in short, there was no endocervicitis as ordinarily recognized. The stirring up of a local condition by curettage led to an active absorption and exacerbation of symptoms. Eventually this curettage led to complete recovery.

Does Menstruation Influence Blood Concentration?—Tyler and Underhill assert that present methods of hemoglobin estimation fail to show a constant variation in the hemoglobin which is characteristic of any one phase of the menstrual cycle. During some periods the hemoglobin rises slightly while during others it falls. The change cannot be related to any symptom, such as headache, with which a rise in hemoglobin has been associated by some authors. The fact that there is no change in hemoglobin content and therefor in blood concentration during menstruation is in accord with present knowledge of the physiology of this function.

Spontaneous Rupture of Body of Uterus During Pregnancy.—In the case reported by Kane the probable explanation of the rupture was that a mild infection followed a curettage done two years previously and resulted in chronic metritis. When six months pregnant, the patient took a motor trip of several hours. Afterward she experienced a sudden sharp pain in the right lower quadrant of the abdomen. She felt no fetal movements after this occurrence. She went into a state of shock. An intra-abdominal tumor reached to the umbilicus but could not be well mapped out on account of rigidity and tenderness. No fetal heart sounds or fetal movements could be found. On account of the site of the initial pain and maximum tenderness, the vomiting and the history of attacks of appendicitis, a diagnosis was made of appendiceal abscess with a dead fetus. A laparotomy was performed two and one-half hours after the patient was first seen. The abdominal cavity was full of blood and clots. The uterus was torn from the fundus to just above the internal os in the midline of the posterior wall. About one half of the placenta and 3 inches of cord extruded through the rent and the head of the fetus was just within the opening.

Benzin and Iodin Versus Soap and Water.—Fifty patients were prepared by the benzin and iodin method of Kankford and another series of fifty, alternating with them, were treated by the usual soap and water, bichlorid and alcohol technic described by Irving. Cultures were taken in all cases both before and after delivery and examined bacteriologically. Twenty-one of the patients prepared by the benzin and iodin method showed no growth before or after delivery as compared with twenty-two of those treated with the soap and water, bichlorid and alcohol technic. Consequently, both methods were equally ineffective in procuring an absolutely sterile field.

American Review of Tuberculosis, Baltimore

February, 1923, **6**, No. 12

Relapse in Pulmonary Tuberculosis. J. J. Waring, Denver.—p. 1057.
*Lymphocyte Index in Tuberculosis. G. B. Webb, G. B. Gilbert and J. A. Newman, Colorado Springs, Colo.—p. 1073.
Occurrence of Hemoptysis, Pleurisy, Râles, Tubercle Bacilli and Roentgen-Ray Findings in 1,000 Consecutive Cases Admitted to Trudeau Sanatorium. F. H. Heise and L. Brown, Trudeau, N. Y.—p. 1078.
*Intracutaneous Reaction of Tuberculous Persons to Glycerin Bouillon and Tuberculin. F. H. Heise and L. Brown, Trudeau.—p. 1084.
*Attempt to Differentiate Human and Bovine Tubercle Bacilli by Means of Anaphylactic Reaction. H. J. Corper and S. Simon, Denver.—p. 1087.
Experimental Study on Behavior of Extravasated Blood in Lungs. H. J. Corper, O. S. Kretschmer and M. B. Lurie, Denver.—p. 1100.
*Lack of Acid-Fastness of Tubercle Bacilli in Tissue Preserved in Liquor Formaldehyd. A. C. Starry and M. Goldberg, Denver.—p. 1114.
Heliotherapy for Tuberculosis at Hohenlychen (Berlin). W. Winterberg, San Francisco.—p. 1119.

Lymphocyte Index in Tuberculosis.—The findings made by Webb, Gilbert and Newman, in an examination of 2,000 successive counts on about 400 patients, seem to indicate that the lymphocytes, and not the endothelial leukocytes, are the important factors in measuring resistance to tuberculosis in human beings.

Intracutaneous Reaction of Tuberculous Persons to Glycerin Bouillon and Tuberculin.—Intracutaneous tests were made by Heise and Brown with tuberculin and glycerin bouillon to determine to what extent, if any, the inflammatory reaction to tuberculin in the skin was due to the glycerin bouillon content of the tuberculin. Two of twelve tuberculous guinea-pigs gave a positive reaction to 0.1 c.c. of 5 per cent. O. T. (old tuberculin). This shows that at times glycerin bouillon does give a positive skin reaction when given at the same time as tuberculin in some tuberculous guinea-pigs. In adult human beings approximately 5 per cent. of 443 persons reacted to glycerin bouillon. About one-fifth of these can be attributed to error. This leaves 4 per cent. who reacted to glycerin bouillon and tuberculin; weakening, to this extent, the value of the tuberculin skin test as a specific test. On the other hand, a hypersensitive patient may react to glycerin bouillon during a reaction produced by tuberculin.

Attempt to Differentiate Human and Bovine Tubercle Bacilli by Means of Anaphylactic Reaction.—The results

obtained by Corper and Simon indicate that the reaction of tuberculous guinea-pigs (infected by subcutaneous injection) to a second (intraperitoneal) injection of from 0.001 to 1.0 gm. living tubercle bacilli, given from twenty-two to twenty-nine days after the primary (infecting) injection, did not produce symptoms which were not obtained by similar intraperitoneal injection of tubercle bacilli in normal animals, or which were not obtained with large amounts (0.5 gm.) of living *Staphylococcus aureus* injected intraperitoneally into (non-sensitized) normal guinea-pigs. In no case was a typical acute anaphylactic reaction noted, such as is characteristic of the phenomenon when soluble proteins are used. In the larger doses (1.0 gm.), living tubercle bacilli given intraperitoneally were found to be profoundly toxic, producing an acute and early death of the animal. A correlation was noted between the toxicity of living tubercle bacilli injected intraperitoneally into tuberculous guinea-pigs at the time of injection. There was noted no difference in this respect between guinea-pigs infected with one strain and given the subsequent intraperitoneal injection with the same strain of bacilli, human or bovine, or any other one of the five strains tested. The virulence of the strain used for the second injection also played no part in this. Dead human (avirulent and virulent) and bovine (virulent) tubercle bacilli, injected into guinea-pigs subcutaneously, in amounts of from 1 to 100 mg., do not act as antigens for the anaphylactic reaction to a second injection of living or dead human (Gluckson) tubercle bacilli, injected intraperitoneally in amounts of from 0.1 to 1 gm. twenty-five days later, even though distinct local tubercles produced by the dead bacilli exist at the time of the second injection. Likewise, a second intraperitoneal injection of full strength old tuberculin, in amounts of from 2 to 5 c.c., produces no appreciable general anaphylactic reaction in guinea-pigs given a primary subcutaneous injection of dead human or bovine tubercle bacilli twenty-five days previously. However, guinea-pigs given an intraperitoneal injection of old tuberculin, in amounts of from 1 to 5 c.c. twenty-five days prior to a second intraperitoneal injection of from 2 to 5 c.c. of tuberculin, died within one to two days after the second injection, although definite acute anaphylactic symptoms were not seen, the intraperitoneal injection of this amount of tuberculin acting in itself as a distinct peritoneal irritant.

Lack of Acid-Fastness of Tubercle Bacilli in Tissues Preserved in Liquor Formaldehydi.—Starry and Goldberg found that tuberculous tissues preserved in solution of formaldehyd are not suitable for staining the tubercle bacilli contained therein by means of carbolfuchsin, unless the formaldehyd has been completely removed, preferably by chemical means, and the penetration of reagents aided by complete removal of the paraffin from the section before staining. Ammonia water has proved satisfactory for removing the formaldehyd from the fixed tissues. A method, based on these studies, is given in detail for staining tubercle bacilli in formaldehyd-fixed tissues which seems to reveal the bacilli more diffusely and more intensely stained than in tissues fixed in alcohol or mercuric chlorid. Lysis of human or bovine tubercle bacilli in vitro, free or in tissues, discernible by staining methods, still remains to be satisfactorily demonstrated.

Boston Medical and Surgical Journal

March 22, 1923, **188**, No. 12

Symptoms and Treatment of Central Vascular Syphilis. W. P. Anderton, New York.—p. 377.
*Myeloma of Vertebrae. R. B. Osgood, Boston.—p. 380.
*Myositis Ossificans Traumatica. D. Carleton, Springfield, Mass.—p. 387.
Intestinal Obstruction by Gallstones. C. R. Abbott, Clinton, Mass., and E. L. Hunt, Worcester, Mass.—p. 390.
*Chronic Arterio-Mesenteric Obstruction of Duodenum. H. C. Tinkham, Burlington, Vt.—p. 397.

Myeloma of Vertebrae.—Osgood points out that multiple myeloma may so closely simulate tuberculous caries of the spine that even surgeons seeing many cases of the latter, more common, disease may fail to recognize the more malignant condition. Neither the history nor physical examination in the early stages is characteristic of the process. The absence of Bence-Jones protein in the urine does not exclude it. In doubtful cases roentgenograms of the skull, the pelvis, and the long bones may reveal the nature of the disease, even when those of the vertebrae are inconclusive. No treatment has thus far surely influenced the course of this fatal multiple tumor growth. Radium and high voltage roentgen rays are, therefore, worthy of trial. The symptoms arising from myeloma of the spine are lessened and may be held in abeyance temporarily by recumbency and immobilization. If the disease is not too extensive at the seat of spontaneous fractures, the fragments may unite if completely fixed.

Myositis Ossificans Traumatica.—Carleton favors the belief that the chief etiologic factor in the production of the disease is a latent diathesis in the individual that is excited into action by violent traumatism.

Chronic Arteriomesenteric Obstruction.—Fourteen cases of this condition have come to Tinkham's notice during the past three years; eleven were recognized only when operating for other chronic diseases of the abdominal or pelvic viscera; two were suspected before operation, and one was demonstrated by the roentgen ray. This case complicated a cancer of the stomach, the stomach being held high up by adhesions. Posterior gastro-enterostomy was done in three cases, and duodenojejunostomy in two cases. The other patients, except one, have improved following operations for appendicitis, cholecystitis or disease of the female pelvic viscera, supplemented by medical treatment and special exercises. There has been no mortality following operations. Tinkham concludes that chronic arteriomesenteric obstruction of the duodenum is not a rare condition. It is more than probable that it is present in every case of enteroptosis. It is a frequent complication of chronic disease of the abdominal viscera. It may be an important factor in acute dilatation of the stomach. It probably is a factor in cases of chronic dilatation of the stomach where disease of the pylorus is absent. In analyzing symptoms of disease of the abdominal viscera which are referred to the epigastrium, chronic obstruction of the third portion of the duodenum should be considered. This is especially important if enteroptosis is present. Medical treatment to improve the general health, together with special exercises to improve the tone of the abdominal muscles, will improve this condition in the majority of cases. Operation is indicated only when the condition does not improve with medical treatment. Duodenojejunostomy seems to be the logical operation.

Journal of Biological Chemistry, Baltimore

February, 1923, **55**, No. 2

Conphaseolin. A New Globulin from Navy Bean, Phaseolus Vulgaris. H. C. Waterman, C. O. Johns and D. B. Jones, Washington, D. C.—p. 93.
Rate of Urea Excretion. V. The Effect of Changes in Blood Urea Concentration on Rate of Urea Excretion. T. Addis and D. R. Drury, San Francisco.—p. 105.
Id. VI. Effect of Very High Blood Urea Concentrations on Rate of Urea Excretion. D. R. Drury, San Francisco.—p. 113.
*Supplementary Protein Value of Peanut Flour. W. H. Eddy and R. S. Eckman, New York.—p. 119.
Accurate Method of Determining Small Amounts of Ethyl Ether in Air, Blood and Other Fluids, Together with a Determination of Coefficient of Distribution of Ether Between Air and Blood at Various Temperatures. H. W. Haggard, New Haven, Conn.—p. 131.
Protein Efficiency of Combinations of Cornmeal and Certain Other Feedingstuffs, Notably Rice Bran. L. A. Maynard, F. M. Fronda and T. C. Chen, Ithaca, N. Y.—p. 145.
Inorganic Phosphorus of Serum and Plasma of Ninety-One Normal Adults as Determined by Bell and Doisy Method. E. Tolstoi, Clifton Springs, New York.—p. 157.
Effect of Eck's Fistula on Pancreatic Diabetes in Dogs. B. M. Hendrix and J. E. Sweet, Philadelphia.—p. 161.
*Selective Action of Kidney as Regards the Excretion of Inorganic Salts. W. Denis, New Orleans.—p. 171.
*Inorganic Constituents of Blood Serum in Nephritis. W. Denis and S. Hcbson, New Orleans.—p. 183.
Hydrolysis of Amides in Animal Body. Comparative Stability of Surface Active Homologs in Relation to Mechanism of Enzyme Action. C. H. Fiske, Boston.—p. 191.
Epiglucosamine. P. A. Levene and G. M. Meyer, New York.—p. 221.
*Hydrogen Ion Concentration of Blood in Carcinoma. I. From Colorimeter Determination of Blood Dialysate. W. H. Chambers, St. Louis.—p. 229.
*Id. II. From Carbon Dioxid-Bicarbonate Ratio. W. H. Chambers and R. E. Kleinschmidt, St. Louis.—p. 257.
Carbohydrate Metabolism. I. Some Comparisons of Blood Sugar Concentrations in Venous Blood and in Finger Blood. G. L. Foster, Berkeley, Calif.—p. 291.
*Id. II. Interpretation of Blood Sugar Phenomena Following Ingestion of Glucose. G. L. Foster, Berkeley, Calif.—p. 303.

*Immediate Effect of Heavy Exercise (Stair-Running) on Same Phases of Circulation and Respiration in Normal Individuals. I. Oxygen and Carbon Dioxid Content of Blood Drawn from Cubital Vein Before and After Exercise. C. Lundsgaard and E. Möller, Copenhagen, Denmark.—p. 315.

Supplementary Protein Value of Peanut Flour.—When the protein supplementing power of peanut flour is compared with that of muscle protein by feeding rations so constituted as to contain only about 10 per cent. of protein, from 6 to 7 per cent. of this protein being contributed by wheat flour and the rest by peanut flour or meat residue, respectively, and when these rations are further supplemented with 3 per cent. of butter fat, 4 per cent. salts, and brought to nearly equal caloric value per gram, Eddy and Eckman assert that the peanut flour proves slightly superior to the meat as a growth producer and markedly superior for promoting reproduction.

Selective Action of Kidney as Regards Excretion of Inorganic Salts.—Experiments made by Denis on dogs and rabbits to which magnesium sulphate, sodium sulphate, magnesium chlorid, sodium chlorid, and sodium phosphate were administered by the intestine and by intravenous injection, and the subsequent excretion of these salts followed by means of blood analysis, indicate a selective retention on the part of the kidney for the sulphate ion which in one case was found to accumulate in the serum to a value of 3,200 per cent. of its initial concentration.

Inorganic Constituents of Blood Serum in Nephritis.—A study made by Denis and Hobson of the inorganic constituents of the blood serum in twenty-two cases of nephritis and cardiorenal disease showed a marked increase over normal of the sodium and chlorin in only four cases; the inorganic phosphate fraction was increased in ten cases; while the inorganic sulphates were determined in only seventeen cases, eleven of which showed increased values. Magnesium and potassium remained more or less constant, while calcium was found to be decreased in five cases.

Hydrogen Ion Concentration of Blood in Carcinoma.—The hydrogen ion concentration of the dialysate from the venous blood of forty-five cases of carcinoma studied by Chambers, averaged p_H 7.45 at 20 C. This is distinctly more alkaline than that of the normal subjects which averaged p_H 7.31. The pathologic cases other than carcinoma gave slightly more alkaline results than the normals, averaging p_H 7.36 at 20 C. No association of anemia with this increase in alkalinity in the venous blood dialysate in cancer was established. In general, the degree of alkalinity corresponded to the size and extent of the tumor growth. Small tumors without metastases showed little or no increase above the normal zone.

Hydrogen Ion Concentration of Blood in Carcinoma from Carbon Dioxid-Bicarbonate Ratio.—The carbon dioxid content and the carbon dioxid tension were determined in the venous blood from normal individuals, from patients with carcinoma, and from miscellaneous pathologic cases other than carcinoma. The venous carbon dioxid tensions were read from the carbon dioxid absorption curves which were plotted at the venous oxygen tension, or from those plotted from fully oxygenated blood with a correction for venous oxygen unsaturation. The hydrogen ion concentration of the blood was calculated from the carbon dioxid bicarbonate ratio. The average reaction of twelve determinations on normal bloods was p_H 7.29, of eight determinations on diseases other than carcinoma it was p_H 7.33, and of twenty-three determinations on carcinoma patients it was p_H 7.34. It is concluded that these results furnish no evidence of an actual decrease in hydrogen ion concentration of the blood in carcinoma which can be related primarily to the cancer. The alkalosis of the dialysate in carcinoma cases compared to normal blood is explained by Donnan's theory as being due to an increase in nondiffusible anions in the plasma.

Blood Sugar After Ingestion of Glucose.—Curves of blood sugar concentration after the ingestion of glucose and of galactose are contrasted by Foster. After the ingestion of galactose the curve rises continuously for nearly three hours and reaches much higher levels than the glucose curve which, as is well known, rises sharply for only a short time (usually less than one-half hour) and then rapidly falls to normal or below. It is concluded that the chief factor in preventing excessive hyperglycemia after the ingestion of glucose is glycogen formation and that the mechanism concerned in glycogen synthesis is stimulated to greater activity by the hyperglycemia which ensues after the ingestion of glucose. Such a conclusion is essentially the same as the one previously expressed by McLean and de Wesselow. It appears to be further strengthened by experiments with repeated doses of glucose wherein it was found that a second dose of glucose taken soon after the hyperglycemia had subsided had little or no effect on the concentration of sugar in the blood. This fact Foster interprets as meaning that the first dose of glucose stimulates the glycogenic mechanism to such activity that the organism is then able to deal with any amount of glucose without becoming hyperglycemic. Evidence is adduced to support the theory that the frequently observed periods of hypoglycemia following the ingestion of glucose are due to an "overactivity" of the glycogen-forming mechanism.

Immediate Effect of Stair Running on Circulation and Respiration in Normal Persons.—The oxygen and carbon dioxid contents of blood from a cubital vein were determined by Lundsgaard and Möller in a series of normal persons at rest and within one minute after heavy exercise. The exercise consisted of running up and down a flight of stairs five times. The muscles of the arms were not used. In sixteen subjects the oxygen of the venous blood showed a decrease far outside the variations found during rest. In one subject, the figures for the oxygen content during rest and after exercise showed no difference. The carbon dioxid content showed only small variations. In some instances a decrease, in others a small increase was found. Different possible explanations of these observations are discussed briefly as an introduction to additional investigations.

Journal of Comparative Psychology, Baltimore

February, 1923, **3**, No. 1

Experiment Testing Ability of Cat to Make Delayed Response and to Maintain Given Response Toward a Varying Stimulus. E. A. Cowan, Wichita, Kan.—p. 1.
Weight Discrimination as Measure of Technical Skill in Piano Playing. O. Ortmann.—p. 11.
Audition in Reptiles. R. Kuroda, Niigata, Japan.—p. 27.
Effects of Cigar and Cigaret Smoking on Certain Psychologic and Physiologic Functions. R. L. Bates, Baltimore.—p. 37.
Reactions of Alligator Mississippiensis. A. M. Reese, Morgantown, W. Va.—p. 51.
Reactions of Animals to Changes in Physical Environment. I. Animal and Earthquake. H. von Hentig, Munich.—p. 61.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

February, 1923, **21**, No. 1

*Pharmacology of Cadmium and Zinc with Particular Reference to Emesis. E. W. Schwartze and C. L. Alsberg, Washington, D. C.—p. 1.
*Carbon Monoxid Content of Tobacco Smoke and Its Absorption on Inhalation. J. P. Baumberger, San Francisco.—p. 23.
*Nicotin Content of Tobacco Smoke. J. P. Baumberger, San Francisco.—p. 35.
Amount of Smoke Produced from Tobacco and Its Absorption in Smoking as Determined by Electrical Precipitation. J. P. Baumberger, San Francisco.—p. 47.
Chronic Intoxication by Small Quantities of Cadmium Chlorid in Diet. C. O. Johns, A. J. Finks and C. L. Alsberg, Washington, D. C.—p. 59.
Action of Furfural. H. McGuigan, Chicago.—p. 65.

Pharmacology of Cadmium and Zinc.—Schwartze and Alsberg state that in the case of animals that vomit, such as cats, the chief effect of the oral administration of cadmium and zinc salts is emesis, which is dependent on the concentration in which these substances are present in the gastric contents. This local effect varies with the character of the food, being more powerful when the metals are administered in diets of liquids than when administered in those of raw hashed, lean meat. The consumption of an average-sized meal of raw hashed meat containing from 350 to 400 parts per million of cadmium or 3,000 parts per million of zinc is almost always followed by emesis. Cadmium calculated as the metal is eight to nine times more effective as an emetic than zinc.

Carbon Monoxid Content of Tobacco Smoke and Its Absorption on Inhalation.—The method used by Baumberger was the oxidation of carbon monoxid to carbon dioxid by iodin pentoxid as described by Weisman, the liberated iodin being determined. His studies showed that the amount of carbon monoxid produced in smoking is increased by strong suction. Cigarets yield an average of 8.3 c.c. carbon monoxid per gram tobacco smoked, i. e., 0.97 per cent., carbon monoxid by weight. In inhaling tobacco smoke about 61 per cent. of the carbon monoxid is absorbed. Theoretically, a maximum saturation with carbon monoxid of 22 per cent. of the hemoglobin of a smoker may occur. This degree of saturation cannot be withstood over an hour without disagreeable symptoms. Baumberger thinks that it is extremely unlikely that the carbon monoxid of tobacco smoke is injurious to any but the most inveterate inhalers.

Nicotin Content of Tobacco Smoke.—The nicotin content of tobacco smoke was determined by Baumberger by Chapin's method, with the modifications of Rasmussen without pyridin interference. The average nicotin content of the smoke in per cent. weight of tobacco was found to be 0.573 per cent. for cigarets. Of the nicotin in the tobacco from 14 to 33 per cent. appears in the smoke puffed. The maximum amount of nicotin retained in the body is calculated as 36 mg. per hour in inhaling and 27.5 mg. per hour in puffing. This dose of nicotin Baumberger thinks would require a high tolerance on the part of the subject in order to escape disagreeable symptoms, and would account for the illness of the novice as a result of smoking. In most cases, however, a large per cent. of this nicotin is expectorated before being absorbed, therefore, the usual dose of nicotin may be very much less than the amount calculated above.

Journal of Radiology, Omaha

February, 1923, **4**, No. 2

Sinus Disease and Lung Infections. K. Dunham and J. H. Skavlem, Cincinnati.—p. 37.
Can Medical and Dental Professions Agree on Any Standardized Treatment of Focus of Infection? B. C. Darling, New York.—p. 39.
Radium in Sarcoma. W. H. B. Aikins, Toronto.—p. 44.
Bone Tumors: Sarcoma, Periosteal Group, Sclerosing Type, Osteogenic, Methods of Diagnosis and Treatment. J. C. Bloodgood, Baltimore.—p. 46.
Roentgen-Rays and Roentgen-Ray Apparatus: An Elementary Course. J. K. Robertson, Kingston, Canada.—p. 51.

Journal of Urology, Baltimore

February, 1923, **9**, No. 2

*Acquired Stricture of Male Ureter. R. H. Herbst and A. Thompson, Chicago.—p. 91.
*Conservative Renal Surgery Associated with Ureteral Stricture Work. G. L. Hunner, Baltimore.—p. 97.
*Accidental Bilateral Occlusion of Ureters. L. Herman, Philadelphia.—p. 151.
Two Cases of Kinks of Ureter. J. D. Barney, Boston.—p. 181.

Acquired Stricture of Male Ureter.—Herbst and Thompson emphasize that early relief of obstruction caused by stricture of the ureter is essential to preserve the function of the kidney. In the early inflammatory type in which the condition in the ureter is merely a reflection of the infection in the seminal vesicle, treatment directed to the infected vesicle and prostate will sometimes be followed by subsidence of the occlusion in the ureter. The renal symptoms may entirely disappear following routine massage, vasotomy or vesiculotomy. In the indurated type gradual dilatation with ureteral bougies is indicated. The hard fibrous type which fails to respond to dilatation and which is limited to the mural portion of the ureter may be cut by introducing a hook-shaped knife into the lumen and incising the involved area by the withdrawal of the knife. Strictures extending beyond the mural part of the ureter and which do not respond to dilatation should be excised and the end of the ureter reimplanted into the bladder. In strictures of long standing complicated by far advanced hydronephrosis or pyonephrosis, nephrectomy may be indicated.

Conservative Renal Surgery Associated with Ureteral Stricture.—Hunner is of the opinion that the recognition of ureteral stricture as one of the most common of all intra-abdominal or intrapelvic lesions will probably bear its chief fruit in the field of conservation by doing away with a vast number of abdominal and pelvic operations now being performed annually in the effort to relieve the symptoms, often vague and indefinite, associated with some form of this condition. Such recognition will also save much misguided medical effort. Examples are those patients, who, after years of general and special medical treatment for apparent migraine or other forms of sick headaches, have been relieved promptly by the restoration of free kidney drainage through the dilatation of ureteral strictures. Other patients suffering from chronic gastro-intestinal symptoms, such as nausea, vomiting, gas formation, diarrheal attacks, pressure on the rectum, and mucous colitis, who have failed to respond to medical and surgical treatment, have responded, some promptly, some after months of patient effort, but only after ureteral stricture has been found to be the basis of their symptoms and proper treatment was instituted. The orthopedist sees certain cases of apparent lumbosacral or sacro-iliac disease, of apparent hip joint dysfunction, or of apparent sciatica, in which all his efforts at relief are fruitless. In some of these cases the symptoms are due to ureteral stricture and relief is obtained after suitable treatment. The gynecologist is daily dealing with vague indefinite backaches, bearing down sensations in the pelvis, ovarian neuralgia, and pains through the hips. He should be particularly alert for stricture if these symptoms are accompanied by bladder disturbances, especially if they are of the intermittent focal infection type. The records of many of Hunner's ureteral stricture cases, involving a history of from one to nine abdominal operations in the effort to relieve the patient, but with the original symptoms still standing out prominently, and then relieved after dilatation of the strictures, he thinks is sufficient evidence that the general surgeon can well afford to keep ureteral stricture in mind in his daily diagnostic routine.

Accidental Bilateral Occlusion of Ureters.—Herman cites a case in which both ureters were ligated accidentally during the performance of a hysterectomy. This was a difficult operation on account of extremely dense and widespread adhesions, so that the uterus was amputated higher than usual (subtotal hysterectomy). The immediate postoperative course was uneventful, except for the fact that no urine was voided; and after ten hours it was determined by catheter that the bladder was empty. Further catheterizations were equally nonproductive, and forty-eight hours after operation, a second operation was performed on the findings of a cystoscopy and a ureteroscopy which disclosed that each ureter was obstructed to catheters at a point 2 inches from the bladder. The ureters had been ligated, apparently, in attempts either to control bleeding from the ovarian artery, to control bleeding from an ascending branch of the uterine artery, or from accidental ligation of the latter in the effort to close the opening in the broad ligament. One ligature was removed from the left ureter and two from the right. The patient made a complete recovery. The literature is reviewed.

Missouri State Medical Association Journal, St. Louis

March, 1923, **20**, No. 3

*Use of Chicken Blood in Treatment of Pneumonias in Children. H. C. Berger and J. G. Montgomery, Kansas City.—p. 81.
Factors of Safety in Operation for Cataract. J. Green, Jr., St. Louis.—p. 83.
*Metastatic Infarcts of Liver. E. C. Robichaux, Excelsior Springs.—p. 88.
Surgical Treatment of Carcinoma of Lower Lip. W. E. Leighton, St. Louis.—p. 90.
Control of Diphtheria in Missouri. P. G. Hurford, St. Louis.—p. 95.
Abscess of Brain. W. Nelson, St. Louis.—p. 97.
Possible Risk in Manipulation of Diseased Stomach. G. B. Lemmon, Springfield.—p. 100.
*Intussusception with Left-Sided Mass. E. D. Twyman, Kansas City.—p. 100.

Transfusion of Chicken Blood in Treatment of Pneumonias in Children.—Having learned that chickens have a high immunity to the pneumococcus, and finding on experimentation that chicken blood could be given to laboratory animals in large amounts, intramuscularly or intradermally, with very little, if any, reaction and no apparently objectionable results, Berger and Montgomery transfused whole chicken's blood into children, ill with pneumonia. As much blood as possible

is withdrawn from the jugular vein and it is then injected into the patient as rapidly as possible, intramuscularly or intradermally, with constant massage. Absorption is rapid and there is no reaction. This process is repeated, using new chickens, until the desired amount of blood is injected, from 300 to 500 c.c. The cases in which the chicken blood was given showed a variation from those in which no injection was made in temperature, pulse, respiration, general condition, roentgen-ray and physical findings. The general condition of these patients reflected the greatest improvement. The extremely ill, highly toxic, cyanotic child was in a few hours transformed into a child that did not seem to be severely ill. The temperature and pulse might remain high, but the child was unembarrassed and free from dyspnea.

Metastatic Infarcts of Liver.—Robichaux records the case of a man, aged 40, who for two months had suffered from lumbago and sciatica. Two years before he had been operated on radically for carcinoma of the right testicle. Under treatment the patient improved for nearly two weeks. Suddenly his abdomen became bloated and there was unlocalized pain in the lower abdomen. His condition rapidly became worse and suggested a ruptured appendix or an infected gallbladder. Fever, pain and leukocytosis were accompanied by a sudden increase in the size of the liver, and nodules were palpable on its anterior surface. Within a week all these symptoms abated and then, within twenty-four hours, grew worse again. Involuntary evacuation occurred, slightly tinged with blood, the only stool of this character. Decided pains in the limbs, particularly the left, with edema of that leg, preceded death by a few hours. The necropsy disclosed a metastatic carcinoma of the liver. Special mention is made of the accuracy with which the daily white blood counts corresponded with the physical condition of the patient.

Extreme Case of Intussusception.—Twyman cites an extreme case of intussusception of the ileum into the cecum, cecum into the ascending colon, ascending colon into the transverse colon, transverse colon into the descending colon. The mass occupied the left hypochondriac region, extended downward, and was easily palpable before the operation. The patient was only 1 year old. Recovery followed operative reduction. There was a complete cecum mobile condition, even the ascending colon having a mesentery.

New York State Journal of Medicine

March, 1923, **23**, No. 3

Recent Progress in Communicable Diseases of Childhood. C. Herrman, New York.—p. 93.
*Clinical Studies in Functional Disturbances. II. Recognition and Treatment of Hypothyroidism. J. A. P. Millet and B. D. Bowen, Buffalo.—p. 94.
*Value of Cystoscopic Examination in Hematuria. A. M. Crance, Geneva.—p. 104.
Life History of Double Uterus. J. O. Polak, Brooklyn.—p. 107.
Treatment of Certain Conditions of Cervix Uteri. G. Gibson, Brooklyn.—p. 109.
Nitrous Oxid-Oxygen. Its Value as General Anesthetic in Genito-Urinary Surgery. J. J. Buettner, Syracuse.—p. 112.
Treatment of Cutaneous Anthrax; Prophylaxis. J. C. Regan, Brooklyn.—p. 113.
Is the Present Trend in Nursing Education Giving Us Satisfactory Nurses? T. Wright, Buffalo.—p. 118.

Recognition and Treatment of Hypothyroidism.—A study is presented by Millet and Bowen of eighteen cases showing either (*a*) myxedema, (*b*) clinical hypothyroidism, or (*c*) certain symptoms suggestive of hypothyroidism, together with a decreased basal metabolic rate and clinical improvement under thyroid therapy. The thesis is put forward that it is very difficult to classify cases falling in this third group, and to distinguish the true hypothyroid case from the case with a decreased basal metabolic rate for which hypothyroidism is not primarily responsible. Some observations are recorded as to the behavior of patients in these three groups under the different forms of thyroid therapy. It is the authors' belief that the most satisfactory type of thyroid therapy is the intravenous administration of thyroxin, controlled, where possible, by repeated estimations of the basal metabolic rate: that, further, both thyroxin and desiccated thyroid are uncertainly absorbed when taken by mouth, although either will, in most instances, bring about the desired therapeutic effect; and, finally, that for general oral administration a good preparation of desiccated thyroid is as good as, or better than thyroxin.

Value of Cystoscopic Examination in Hematuria.—Hematuria is a warning signal of pathology in the genito-urinary tract. Inasmuch as the mildest case of bleeding may prove to be one with a most serious lesion, Crance says, it is essential that practically all of the these patients be examined by the methods which modern urology offers.

Ohio State Medical Journal, Columbus

March, 1923, **19**, No. 3

Brain Injuries Without Skull Fractures. D. H. Morgan, Akron.—p. 157.
Abdominal Drainage. E. J. McCormick, Toledo.—p. 163.
Blood Chemistry in the Diagnosis, Prognosis and Treatment of Nephritis. C. S. Mundy, Toledo.—p. 167.
*Secondary (Acquired) Megacolon. Report of Case. R. R. Rogers, Warren.—p. 172.
Early Activation of Muscles in Infantile Paralysis. H. O. Feiss, Cleveland.—p. 177.
Pellagra. L. de M. Blocker, Cincinnati.—p. 180.
Relation of Laboratory to Health Department and to Community. R. G. Perkins, Cleveland.—p. 183.
Are State Hospitals Preferable to State Asylums? H. S. MacAyeal, Akron.—p. 187.
Use of Morphin in Obstetrics. F. Hendrickson and A. R. Vonderahe, Cincinnati.—p. 189.

Secondary Megacolon.—Rogers' patient was a full term infant weighing 9 pounds, and apparently normal in every way except for the condition of the anus. When he was about twenty-four hours old the mother noted that his bowels did not move, and on investigation she found that the baby's anus seemed to be closed. The family physician discovered an anal opening which was just large enough to admit a small steel probe. He dilated this opening with the tip of an infant syringe. This operation produced some bleeding, but was followed by the passage of considerable meconium. After this the baby began having small flat stools. The movements were accompanied by a great deal of grunting and straining, and frequently abdominal massage was necessary to accomplish them. The child was breast fed and gained weight regularly, but for the first month its bowels were moved only with considerable difficulty. The movements were soft, semiformed and small, but even this type of fecal matter caused a great deal of straining and pain and the use of suppositories and enemata was painful and caused hemorrhage. At 9 months cereal feedings were begun, and shortly thereafter small amounts of bread and butter, baked potato, carrots and prunes were added to the diet. Immediately the trouble with the bowels became greatly aggravated. The stools occurred less and less frequently, were formed when they did occur, and were accomplished only by great straining and by screams of pain. By the use of abdominal massage and castor oil a stool was obtained about every third day until the child was a year old, but had frequent vomiting attacks and at times the vomitus had a fecal odor. With less frequent stools the baby's abdomen became more distended. The anal region was bisected by a thick, fibrous raphe which was continuous with the raphe of the scrotum. It was impossible to stretch this raphe enough to insert even the little finger into the rectum. The raphe was divided and removed and as good a sphincter as possible was constructed. The patient made a good recovery but the intestinal condition became worse. Roentgen-ray examination showed a dilated sigmoid. Operation disclosed an early Hirschsprung's disease or megacolon. The enlargement started immediately above the internal sphincter, and the diameter of the intestine was that of a small orange. This tapered up throughout the length of the colon to the hepatic flexure.

Philippine Journal of Science, Manila

February, 1923, **22**, No. 2

*Natural Immunity to Infection and Resistance to Disease, as Exhibited by the Oriental, with Special Reference to Siamese. R. W. Mendelson, Bangkok, Siam.—p. 115.
*Metabolism in China. B. E. Read and S. Y. Wang, Peking, China.—p. 127.
New Genus and Species of Fly Reared from Hoof of Carabao. J. M. Aldrich, Washington, D. C.—p. 141.

Foot Maggot, Booponus Intonsus Aldrich; New Myiasis Producing Fly. H. E. Woodworth and J. B. Ashcraft, Manila.—p. 143.
New Philippine Stenocranus (Delphacide, Homoptera). F. Muir, Honolulu.—p. 157.
Genus Myndus in Malay Islands (Homoptera). F. Muir, Honolulu.—p. 161.
Two Collections of Fulgoroidea from Sumatra. F. Muir, Honolulu.—p. 171.
Lycopodiaceae Borneenses. W. Herter, Berlin, Germany.—p. 179.
Merrillosphaera Africana at Manila. W. R. Shaw, Manila.—p. 185.

Resistance of Siamese to Disease.—Mendelson states that specific immunity to typhoid infection can be demonstrated in 15.5 per cent. of the Siamese people. This is in the nature of a racial immunity, acquired as the result of using, for many generations, an infected water and food supply. Although resistance to certain diseases, such as cholera and plague, cannot be demonstrated by specific blood reactions, it is present in the form of a marked resistance to germ infections as a whole, that is, "general infection immunity." The nervous system of orientals is much more resistant to the effects of germ infection than is the nervous system of occidentals. The natural immunity to infection and resistance to disease, as exhibited by the oriental, is of real value to the health officer working in the East under present conditions.

Metabolism of Chinese.—Analysis of the chemical constituents of urines excreted by various classes of Chinese people taking different diets has yielded results which Read and Wang believe makes it necessary for clinicians working in the Orient to adjust their analytic standards accordingly.

Tennessee State Medical Association Journal, Nashville

February, 1923, **15**, No. 10

Council of State Medical Associations. O. West, Chicago.—p. 433.
Treatment of Glaucoma. E. C. Ellett, Memphis.—p. 437.
Head Injuries. T. G. Pollard, Nashville.—p. 442.
Economic Aspect of Salpingitis Based on Two Hundred and Fifty-Seven Cases. J. M. Maury, Memphis.—p. 443.
Endoscopy. H. Wood, Nashville.—p. 446.
Incidence of Tabes Dorsalis. C. C. Turner, Memphis.—p. 453.
Dendritic Keratitis. J. B. Stanford, Memphis.—p. 455.
Treatment of Auricular Fibrillation. N. S. Stern, Memphis.—p. 457.

Virginia Medical Monthly, Richmond

March, 1923, **49**, No. 12

Importance of Early Diagnosis of Acute Abdominal Pain. J. D. Rogers, Washington, D. C.—p. 693.
Pediatric Practicalities. S. Wilson, Lynchburg.—p. 696.
Use of Dry Milk in Infant Feeding. W. B. McIlwaine, Petersburg.—p. 700.
*Exanthem Occurring in Infants, with Unusual Symptomatology. C. E. Conrad, Harrisonburg.—p. 705.
Balancing the Ration in Severe Diabetes. A. G. Brown, Jr., Richmond.—p. 706.
Value of Basal Metabolism Studies in Thyroid Disease. J. H. Smith, Richmond.—p. 708.
Delayed Union in Noninfected Wounds Above Umbilicus. A. S. Brinkley, Richmond.—p. 711.
Kidney Abscess and Pyonephrosis. Review of Cases. J. H. Neff, University.—p. 715.
Prostatectomy, with Special Reference to Perineal Route. J. S. Horsley, Richmond.—p. 718.
Prostatectomy. R. C. Bryan, Richmond.—p. 721.
*Multiple Myeloma; Report of Case. J. L. Rawls, Norfolk.—p. 723.
Unusual Case of Mastoiditis. Operation and Recovery. T. E. Hughes, Richmond.—p. 726.
Electrocardiography in Diagnosis of Cardiac Conditions. F. C. Rinker, Norfolk.—p. 727.
Papillary Cystadenoma of Ovary. J. W. Gibbon, Charlotte, N. C.—p. 729.
Time and Mortality in Appendicitis. J. E. Rawls, Suffolk.—p. 734.

Exanthem Occurring in Infants, with Unusual Symptomatology.—Conrad has seen two cases of a disease in infants, with high fever (104 F.), loss of appetite and fretfulness, but without physical signs. From twelve to twenty-four hours after the fever subsides there appears a macular and maculopapular eruption. After the febrile stage, the infant is comfortable and happy, and does not appear to be sick during the period of the rash. With this there is a leukopenia, with lymphocytosis. This condition has been termed by Zahorsky "roseola infantum." Veeder and Hempleman suggested the term "exanthem subitum."

Multiple Myeloma: Report of Case.—In Rawl's case only one bone, the femur, showed evidence of myeloma at the time of death.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

February, 1923, **27**, No. 9

Radiation of True Pelvis with Help of Drainage Tubes. F. Daels.—p. 257.
Pulmonary Vessels and Lymphatics. W. Overend.—p. 268.
Radiography in Its Relation to Miners' Phthisis on Witwatersrand. W. Steuart.—p. 277.

China Medical Journal, Shanghai

February, 1923, **37**, No. 2

Dysentery in Shanghai. C. N. Davis.—p. 107.
Mechanism of Regulation of H-Ion Concentration of Blood. E. W. H. Cruickshank.—p. 116.
*Spindle Cell Sarcoma of Neck; Congenital Papilloma of Buttock. A. I. Ludlow.—p. 145.
Bronchial Spirochetosis. L. S. Huizenga.—p. 153.
*Tartar Emetic in Schistosomiasis Japonica. W. E. Libby.—p. 158.

Congenital Papilloma of Buttock.—The papilloma of the buttock in Ludlow's case measured 40 cm. in length, 35 cm. in breadth, and was elevated from 4 to 12 cm. above the surrounding surface. It weighed 3,000 gm.

Tartar Emetic in Schistosomiasis Japonica.—Eight cases of *Schistosomiasis japonica* infestation are reported by Libby in which tartar emetic was used. One patient died on the fourteenth day after having received a total of 12½ grains (0.85 gm.) of the drug. Libby regards it as a case of poisoning from the cumulative effects of the tartar emetic. Clinically, the picture was one of uremic toxemia on which was superimposed jaundice.

Glasgow Medical Journal

February, 1923, **99**, No. 2

Present-Day Treatment of Fractures. J. W. Dowden and others.—p. 81.

Indian Journal of Medical Research, Calcutta

January, 1923, **10**, No. 3

Ligaturing of One Renal-Portal Vein in Living Frog (Gurwitsch). W. N. F. Woodland.—p. 595.
Bacteriologic and Laboratory Technic. W. F. Harvey.—p. 613.
*Diagnosis of Hookworm Infection. K. S. Mhasker.—p. 665.
Salivary Glands and Sucking Apparatus of Cimex Rotundatus. J. W. Cornwall.—p. 687.
*Tubercle Bacilli in Culture; Properties of an Endolipase. R. Row.—p. 692.
Structure and Development of Female Genital Organs and Hypopygium of Mosquito. S. R. Christophers.—p. 698.
Herpetomonas Ctenocephali, Fantham; Life History and Reactions to Different Environments. H. E. Shortt.—p. 721.
Increase of Dose as Method of Making Use of Old Vaccine. W. F. Harvey and K. R. K. Iyengar.—p. 739.
Some Indian Species of Genus Phlebotomus. Part I. Phlebotomus Annandalei. J. A. Sinton.—p. 742.
*Smallpox Vaccination in Java. W. F. Harvey and S. R. Christophers.—p. 754.
Malaria Research and Preventive Measures Against Malaria in Federated Malay States and in Dutch East Indies. S. R. Christophers and W. F. Harvey.—p. 759.
Revision of Culicine Mosquitoes of India. Part I. P. J. Barraud.—p. 772.
Transmission of Plague by Fleas of Genus Xenopsylla. L. F. Hirst.—p. 789.
Correlation Between Humidity and Intensity of Hookworm Infection in Southern India. K. S. Mhaskar.—p. 821.
Pseudotracheal Teeth in "Eye-Fly" (Siphunculina Funicola, De Meijere). R. S. White.—p. 825.
Descriptive Terminology of Male Genitalic Character of Mosquitoes. S. R. Christophers and P. J. Barraud.—p. 827.
Iron Hematoxylin Staining. H. E. Shortt.—p. 836.
Reduction of Amino-Acids Into Simpler Natural Bases (Amines) by Bacillus Dysenteriae (Shiga). H. W. Acton, R. N. Chopra and T. C. Boyd.—p. 837.
Fallacy in Use of Benian's "Relief" Stain Associated with Growth of Micro-Organisms in Two Per Cent. Aqueous Solution of Congo Red. R. H. Malone.—p. 847.
*Results of Some Experiments in Treatment of Malaria with Alkalis Combined with Quinin. J. A. Sinton.—p. 850.
Lathyrism. A. Howard, J. L. Simonsen and L. A. P. Anderson.—p. 857.

Diagnosis of Hookworm Infection.—Mhaskar asserts that diagnosis based on the presence of hookworm ova in the stools is definite. The method is simple, rapid and practicable, and the results obtained are highly accurate.

Tubercle Bacillus Endolipase.—The object of Row's study was to ascertain if, in a mass of tubercle bacilli grown on solid mediums rich in fatty material, any fat splitting ferment could be demonstrated, what changes would be produced in the tubercle bacillus itself, which, as is well known, is not appreciably altered by contact with all sorts of reagents, fat solvents and even age. It appears that this resistant property, which is also demonstrable by the character of acid fastness, is the more marked in oldish cultures when the fatty or waxy material of the tubercle bacilli becomes more differentiated and complex. This, Row believes, is the reason why it has been possible to demonstrate tubercle bacilli in the lesions found and described in some of the Egyptian mummies.

Smallpox Vaccination in Java.—Harvey and Christophers are convinced that Nijland of Java, operating in a tropical climate, has been able to surmount the difficulties attendant on vaccine lymph production under high temperature conditions. The yields which he has been able to obtain from buffaloes render the production of lymph in sufficient quantity and at low cost an easy matter. The principle underlying Nijland's method is that no vaccinifer shall be inoculated with lymph derived from the same species of animal. Under these conditions degeneration does not take place. Three species of vaccinifers are used, the rabbit, to provide lymph for inoculation of the cow-calf, and the cow-calf, to provide stock lymph for inoculation of buffaloes. The buffaloes thus provide the lymph which is used by the vaccinators in the field. This lymph can be issued by ordinary post, can be sent far afield, and without loss of potency. It is diluted at the time of use by the vaccinator and this diluted lymph preserves its potency for two or three days.

Treatment of Malaria with Alkali Combined with Quinin.—A few years ago Cowie and Calhoun, and later Abrami and Senevet, advanced the theory that the malarial paroxysm was of the nature of an "anaphylactoid" phenomenon, from the similarity of the paroxysm to that seen in "protein shock." On this hypothesis and because of many other factors of similarity between these two phenomena, it seemed to Sinton that if the symptoms of the latter are influenced by the intravenous injection of alkali, that those of the former might also be so influenced. Two patients with benign tertian malaria were treated in this way with beneficial effects on the symptoms and in one case morphologic changes in the parasites occurred rather resembling those produced by quinin treatment. The mixtures used were as follows: A: sodium bicarbonate, 60 grains; sodium citrate, 40 grains; water, 1 ounce. Q: quinin sulphate, 10 grains; dilute sulphuric acid, 10 minims; magnesium sulphate, 60 grains; water, 1 ounce. In future it is proposed to use citric instead of sulphuric acid, as the former is a much weaker acid and the citrates formed become carbonates on absorption into the blood. All patients were given 1 ounce of magnesium sulphate before the commencement of treatment. In the morning they were given 1 ounce of A at 7:30 a. m., repeated at 9:30 and 11 a. m. About fifteen minutes after this last dose 1 ounce of Q was given. At 6 p. m. 1 ounce of A was given, followed by 1 ounce of Q. For the next three days 1 ounce of A was given thrice daily (7:30 a. m., 11:30 a. m. and 6 p. m.), followed in each case by 1 ounce of Q. This completed the treatment.

Irish Journal of Medical Science, Dublin

February, 1923, **5**, No. 12

Some Renal Efficiency Tests. G. E. Nesbitt.—p. 533.
*Case of Large Cervical Myoma. B. Solomons.—p. 543.
Congenital Cardiac Anomaly. Abnormal Opening Between Aorta and Pulmonary Artery. T. G. Moorhead and E. C. Smith.—p. 545.
Case of Precocious Sexual Development. W. G. Harvey.—p. 550.

Large Cervical Myoma.—Solomons removed a fibromyoma springing from the anterior cervical wall which weighed 15 ounces. Microscopically it was a simple fibromyoma with hyaline degeneration. The cervix revealed an unhealed discharging wound.

Congenital Cardiac Anomaly.—In the case reported by Moorhead and Smith an abnormal opening existed just above the sigmoid valves, establishing a communication between the anterior wall of the aorta and the pulmonary artery at this point. The patient, a man, aged 48, was suffering from symptoms of advanced cardiac failure. He became easily tired and short of breath. The heart was considerably enlarged, the impulse extending into the sixth space, about an inch outside the nipple. The impulse was fairly forcible, and there was no thrill. On auscultation a double murmur exactly resembling that of aortic regurgitation was audible, the only special point noted being that it could only be heard to the left of the sternum. The systolic portion of this murmur was conducted upward to the root of the neck, and the diastolic portion down to the cardiac apex. In addition, a mitral systolic murmur, conducted into the axilla, was clearly audible. The pulse, 76 per minute, was of a typical collapsing character. The blood pressure was 160/40. No Duroziez sign was detected nor was capillary pulsation noted. The Wassermann test was negative. The patient died five weeks after admission to hospital. The necropsy report is given.

Precocious Sexual Development.—Harvey reports the case of a girl, aged 2½ years, who had a history of regular menstrual periods for nine months. She was a small, thin child, of apparently normal mental development for her age, but having well developed breasts, a tense and swollen abdomen, a coarse growth of dark hair on the pubes, and external genitalia of a markedly adult type. The abdominal swelling was due to a large tumor in the left side involving the kidney and suprarenal, and extending across the abdomen. The child died five weeks after Harvey first saw her. She did not seem to have pain, and her only symptom was a persistent craving for fluid. The thymus was practically nonexistent, and the left ovary was cystic, while the right kidney showed hypertrophy. Other organs appeared to be normal. The tumor was a very cellular and vascular sarcoma.

Indian Medical Gazette, Calcutta

February, 1923, **58**, No. 2

*Two Family Outbreaks of Epidemic Dropsy Type of Beriberi. J. W. D. Megaw and R. N. Banerji.—p. 49.
Season of Onset of Kala-Azar. T. C. McCombie Young.—p. 52.
Filariasis. S. K. Roy.—p. 56.
First Six Months' Work of Radium Institute at Ranch. T. C. Vaughan.—p. 58.
Scheme of Medical Inspection of Scholars in Secondary Schools. A. Hamid.—p. 62.
Merits of Ayurvedic System of Medicine. A. Roy.—p. 66.
Expulsive Hemorrhage After Cataract Extraction. S. K. Ganguly.—p. 70.
Rate of Growth of Vesical Calculi. R. F. A. Macgregor.—p. 71.
Treatment of Chronic Gonorrhea. A. P. Pillay.—p. 71.

Two Family Outbreaks of Epidemic Dropsy Type of Beriberi.—The twelve cases reported by Megaw and Banerji occurred in a highly cultured and well to do Bengali family consisting of thirteen members belonging to three generations; the ages varied from 8 to 80. The first cases began to occur early in November, 1919, and by the beginning of January, 1920, twelve members of the family had been affected to a greater or less extent, the victims being attacked one by one at varying intervals. The most striking manifestations of the disease were: gastro-intestinal symptoms which occurred in ten out of twelve. There was diarrhea in eight and dysentery in one. There was tenderness in the epigastric region, in three cases followed by considerable vomiting. There was slight nausea or vomiting in seven others. There was swelling of the feet and legs of varying severity and duration in all the cases. Fever of an irregular type occurred in eight cases. The temperature was seldom higher than 101 F. and in the milder cases the fever was slight and of brief duration. A systolic bruit, best heard over the pulmonary area was detected in ten of the cases, and in four of these there were definite signs of dilatation of the heart accompanied by dyspnea. There was reduplication of the pulmonary second sound in two cases. The knee jerks were exaggerated in ten cases, and were entirely lost in two cases. There was tenderness of the calf muscles in three cases: in one of these it was very pronounced and this case ended fatally. In one case the gait was like that of locomotor ataxy. A striking feature of the disease was a tendency to hemorrhages of which the following were noted: (*a*) Petechial skin hemorrhages in three; (*b*) bleeding piles in two; (*c*) epistaxis in four; (*d*) hematemesis in three; (*e*) hemoptysis in three; (*f*) hemorrhagic retinitis in four.

Annales de Médecine, Paris

January, 1923, **13**, No. 1

*Bulbar Hemisyndrome. Marinesco and Draganesco.—p. 1.
*Amino-Acids in Blood. J. Desqueyroux.—p. 20.
*Infection of Adults with Tuberculosis. Cain and Hillemand.—p. 39.
Cerebrospinal Regions for Injections. H. C. Salomon.—p. 57.
*Psychic Factor in Motor Function of Stomach. Daniélopolu and Carniol.—p. 63.
*Acidity of Urine and Albuminuria. A. Hanns.—p. 71.

Bulbar Hemisyndrome.—Marinesco and Draganesco report the clinical and anatomic findings in a case of thrombosis of the right vertebral artery, which had caused softening of the middle layer of the medulla oblongata. They discuss the literature on Avellis' syndrome (paralysis of one vocal cord and half of the soft palate with hemiplegia of the other side) and especially on the question of the cardiac nucleus of the pneumogastric nerve.

Amino-Acids in Blood.—Desqueyroux determined the amount of amino-acids and other nitrogen compounds in the blood of forty patients and three healthy subjects. In the latter he found between 4.9 and 6.1 mg. in 100 c.c. of blood three hours after a light breakfast. This level is rarely lower in disease, but is elevated more frequently (up to 9.37 mg.). The higher amounts were found in diabetes, azotemic nephritis, insufficiency of the heart and pneumonia. The figures were irregular with pathologic conditions in the liver.

Primary Infection of Adult with Tuberculosis.—Cain and Hillemand report a case of tuberculosis which can be considered as an infection acquired in adult age. They give the pathologic characteristics of these cases, and a short review especially on the fulminating tuberculosis of natives in the colonies, not protected by previous infections.

Psychic Factor in Motility of Stomach.—Daniélopolu and Carniol demonstrated in 1922 that the psychic influence is distinct not only in the secreting function of the stomach but also in its motor functioning. The stomach started to contract about five minutes after another person ate a small meal in the presence of the subject tested. The contractions were less in a patient with atony of the stomach; they started later, and stopped earlier after the end of the visual meal. Intravenous injections of physostigmin sulphate (0.5 mg.) caused at first an inhibition, later an exaggeration of the contractions. Intravenous injection of 0.05 to 0.1 mg. of atropin sulphate increased the contractions, which stopped after another injection of 0.25 to 0.5 mg. After an injection of 0.5 mg. of atropin sulphate the stomach did not react even to a strong insufflation.

Acidity of Urine and Albuminuria.—Hanns reports two cases of nephritis with a distinct parallelism between the concentration of albumin and the acidity of the urine. This relation is merely accidental and due to the fact, that both the concentration of albumin and the acidity of the urine depend on the amount of urine excreted.

Archives Franco-Belges de Chirurgie, Brussels

January, 1923, **26**, No. 1

*Transfusion of Blood. A. Hustin.—p. 1.
*Grafts of Bones Kept in Alcohol. L. Christophe.—p. 13.
*Osteosynthesis for Recent Fracture. A. Lambotte.—p. 57.
*Injections of Hemolyzed Own Blood. M. Descarpentries.—p. 63.
Experimental Rickets. R. Simon and E. Allenbach.—p. 70.
Malformation of Acetabulum. Van Neck.—p. 80.
Immediate Paraplegia After Albee Inlay Graft. J. Moreau.—p. 85.
Osteitis of Spine Probably of Typhoid Origin. G. Lemoine.—p. 88.

Transfusion of Blood.—Hustin uses a glass cannula shaped like an ampule, 3 cm. long, with two arms for the rubber tubes. The citrate solution thus blends with the blood as it emerges from the vein, and the mixture passes on through the other tube to the receptacle below. He warns that whatever the strength of the citrate solution it must be isotonic, and the most harmless method of insuring this is to add glucose solution to bring it to the required isotonic figure. The transfused blood is liable to induce anaphylaxis as a foreign protein. This cannot be foreseen by tests for hemolysis and agglutination, but it can be warded off by a preliminary injection according to Besredka's method.

Bone Grafting and Bone Regeneration.—Christophe restored clinically normal function to the knee of a soldier after the patella had been shattered by a war wound. Four months later a patella from another soldier was implanted, and the functional results were perfect. The foreign patella had been kept in alcohol for three days. Experimental research with grafts kept in alcohol are described, and further clinical experiences. All justify the assumption that a bone placed at once in alcohol, and used soon, offers ideal material for grafts. It can be fitted exactly to the defect, and allows exercise of the parts at once, thus averting atrophy of muscles. The dead bone is not resorbed so rapidly as living bone, but otherwise the chemical process is identical: Either the graft is tolerated and heals in place, or it is resorbed and new bone formed from its elements and the precipitated preosseous gel.

Interval Before Osteosynthesis for Recent Fractures.—Lambotte advises waiting for one or two weeks or longer after fracture of a long bone. Healing is retarded a little, but the ultimate outcome is far better. In his hundreds of cases of fracture of both bones in the leg, healing was complete within a month in cases thus treated. By waiting a week or two the periosteum becomes thick and congested, and bears handling as the plate or metal band is applied. Of course if a sharp fragment of bone threatens gangrene or a nerve is injured, the intervention must be hastened.

Injections of Laked Own Blood.—Descarpentries has a very favorable impression of the effect of reinjecting subcutaneously the patient's own blood in surgical cases, phlegmons, etc. He draws 10 c.c. of blood for the purpose. It seemed to bring a turn for the better in torpid cases, prevent postoperative complications, localize suppuration, and promote healing.

Archives des Maladies de l'App. Digestif, Paris

1923, **13**, No. 1

*Diffuse Angiomas of Rectum. R. Bensaude and E. Antoine.—p. 1.
*Pyloric Cancer in a Syphilitic. F. Curtis and H. Surmont.—p. 24.
*Reactions in Echinococcus Disease. Cottin and M. Saloz.—p. 44.
*Blood in Stomach and Feces. L. Meunier.—p. 60.

Diffuse Cavernous Angiomas of Rectum.—Bensaude and Antoine report two cases of this rare disease. One of them was very favorably influenced by an artificial anus in the transverse colon; the other died without operation.

Pyloric Cancer in a Syphilitic.—Curtis and Surmont describe a case of adenocarcinoma of the pylorus in a syphilitic. Antisyphilitic treatment improved the condition of the patient for a short time and the operation came too late. No syphilitic changes in the stomach were found at the necropsy.

Biologic Reactions in Echinococcus Disease.—Cottin and Saloz publish one case of carcinoma of the liver in an individual in good general condition. The precipitin reaction and Weinberg's reaction for echinococcus were positive. On the other hand, these reactions were negative in a case of echinococcus cyst of the liver. There was no eosinophilia in the latter case.

Distinction Between Fresh and Digested Blood in Stomach and Feces.—Meunier uses extraction by water for hemoglobin, and extraction by a weak solution of ammonia for hematin, and makes the phenolphthalein test for peroxydases with the extracts. Fresh blood is soluble in water, while the hematin from digested blood needs ammonia to dissolve it.

Archives des Maladies du Cœur, Paris

January, 1923, **16**, No. 1

*Antagonism between Epinephrin and Cinchona. A. Clerc and C. Pezzi.—p. 1.
*Situs Inversus with Congenital Heart Block. P. Meyer.—p. 16.
Pathologic Significance of Abnormally Shaped Leukocytes. J. Sabrazès.—p. 41.

Antagonism Between Epinephrin and the Alkaloids of Cinchona.—Clerc and Pezzi extended their former studies on the antagonism between epinephrin and quinin on quinidin, cinchonin and cinchonidin in which they found a similar action to quinin: They all paralyze the bulbar center of the pneumogastric nerve, while epinephrin excites it. The acceleration of the heart action caused by small amounts of

these drugs is due to excitation of the accelerators, not to paralysis of the pneumogastric, which requires larger doses.

Situs Inversus with Malformation of the Heart and Congenital Heart Block.—Meyer publishes a case of complete situs inversus with stenosis of the pulmonary valve and an opening in the interventricular septum (clinical diagnosis). Electrocardiographic tracings of the complete block, which was present, are reproduced.

Archives de Médecine des Enfants, Paris

January, 1923, **26**, No. 1

*Vaccination Against Diphtheria. P. Rohmer.—p. 1.
Training of Speech in Children with Cleft Palate. L. and C. Ruppe.—p. 19.
*Infantile Paralysis from Pain. J. Comby.—p. 36.
Present Status of Banti's Disease in Children. J. Comby.—p. 39.

Antidiphtheria Vaccination.—Rohmer reports the history and technic of Behring's method, and speaks favorably about Schick's test except for the difficulties in distinguishing between true and pseudoreactions, and its lack of differentiation of individual sensibility, especially in small children. The future task is to determine the necessary minimum dosage, as well as the number of injections, which would give the desired results.

Paralysis in Infants Due to Pain.—The paralysis of one upper extremity of Comby's 12 month old patient, was due to a subluxation of the head of the radius.

Bulletin Médical, Paris

Feb. 24, 1923, **37**, No. 9

*Diagnosis of Pott's Disease. C. Roederer.—p. 229.
*Orthopedic Treatment of Pott's Disease. Nové-Josserand.—p. 236.
Surgical Treatment of Pott's Disease. Delchef.—p. 241.

Pott's Disease.—These two numbers of the *Bulletin* are devoted to tuberculosis of the spine. Roederer says that what we call the beginning is in reality not the actual onset; when symptoms attract attention to the lesion it is already well established. The clinical picture and the course differ materially in children and adults, and in individuals in each group. It may simulate any and every spinal cord affection and lesion of the spine, and the majority of chronic affections of the viscera. "With a large abscess almost anywhere in an adult, the origin of which is not clear, examine the spine." He had two patients in his charge recently whose Pott's disease had been mistaken by others for a perirenal abscess and an operation had been performed. The pain is persistent or returns always at the same spot; it is relieved by reclining and aggravated by walking, by jarring, and by the effort of sitting up. It is generally bilateral, and spreads downward as a rule. In a child, scoliosis should not be considered until after vertebral caries has been definitely excluded. In dubious cases, by having the child lie flat on its stomach for several hours the contracture with Pott's disease usually subsides, and with it the tendency to scoliosis. Children with incipient scoliosis, taking gymnastic treatment, should be reexamined every month as if they were being seen for the first time. He has seen several children with nonrigid tuberculous caries who were being given gymnastic treatment from a blunder in diagnosis; in one such case the course of the Pott's disease proved exceptionally severe. Every child that limps, that tires from standing, should be suspected of tuberculous caries, even when the disquieting phenomena have apparently subsided. The general health, recent tuberculosis-breeding diseases, the family antecedents, and the glands in axillae, neck and groin should be taken into account.

Orthopedic Treatment of Pott's Disease.—Nové-Josserand insists on the wisdom of beginning treatment in every case of tuberculous osteitis of the spine as if it were of the gravest type, enforcing bed rest. By the end of two or three months we can assume a mild form of the disease if the general condition keeps good, if the pain has yielded to the rest, the spine keeps flexible, the reclining patient can sit up without help, and radioscopy shows no serious lesions. In these conditions we can allow the adolescent or adult patient to be up and about with a plaster jacket, under attentive surveillance. With growing children, bed rest is indispensable. The younger the child, the greater the need for relieving the spine from weight bearing, and the longer the bed rest must be enforced. After recovery, strict supervision is necessary. At least a year of bed rest is required. Then very gradually certain movements are allowed while still reclining, then creeping exercises, watching to see that they do no harm.

March 3, 1923, **37**, No. 10

*Diagnosis of Pott's Disease in Adults. J. A. Barré.—p. 255.
*Congenital Scoliosis Versus Pott's Disease. A. Mouchet.—p. 256.
Pott's Disease in the Army. Duguet.—p. 256.
Radiologic Diagnosis of Incipient Pott's Disease. Mahar.—p. 258.
Idem. Colanéri.—p. 260.
*Lesions Simulating Pott's Disease. M. Bufnoir.—p. 262.

Early Diagnosis of Pott's Disease in Adults.—Barré calls attention to the pyramidal symptoms (Babinski sign, exaggerated tendon reflexes) which he has found accompanying pains ascribed at first to sciatica or intercostal or other neuralgia, but which proved to be the earliest manifestations of insidious tuberculous osteitis of the spine. The roentgen-ray findings and the dissociation of albumin and cells in the spinal fluid offer confirmatory evidence of Pott's disease, even in a comparatively early stage. Also tenderness over the spinal nerve roots corresponding to neuralgia in remote regions.

Congenital Scoliosis Versus Pott's Disease.—Mouchet relates that a missing half of one vertebra is liable to induce a small hump in the spine, but it is not tender, not reducible and not strictly median, and there is rotation of the adjoining vertebrae. When the hump is larger, median, tender, and there is no rotation and the spine is rigid, tuberculous osteitis should be suspected, even in young infants.

Lesions Simulating Pott's Disease.—Bufnoir reports five cases of infectious processes in the intervertebral disks and prevertebral ligament which improved under heliotherapy. There were kyphosis and pains in a certain segment of the spine; the intensity of the paroxysmal pains and the irregularity of the course, the intermissions and exacerbations, differentiated the affection from Pott's disease. A plaster jacket is scarcely needed for this chronic vertebral arthritis; bed rest does not reduce the pain. In his cases, heliotherapy and spa treatment proved effectual.

Journal de Chirurgie, Paris

January, 1923, **21**, No. 1

*Polycystic Disease of Liver. Costantini and Duboucher.—p. 1.
*Removal of Submaxillary Glands. P. Truffert.—p. 26.

Polycystic Disease of the Liver.—Costantini and Duboucher devote six pages to the tabulated details of 47 cases of cysts in the liver; 5 were treated by puncture alone, with only one recovery; 13 were treated by incision and drainage or the lips of the cyst were sutured to the skin. There were only three deaths in this group. In 11 cases the unilocular cyst was treated by complete resection of the cyst, with recovery of all but one much debilitated patient. In 6 cases a polycystic mass in the liver was removed by a wedge resection, with recovery of 5 patients. In 5 other cases of polycystic disease of the liver all the patients recovered but 2 who had in addition polycystic disease of the kidneys. Two other patients were treated by exploratory laparotomy alone, and both died; a third recovered after the cyst had been sutured to the duodenum. In the total 47 cases the kidneys were diseased in 5. The fluctuation in a bile cyst differentiates it from a hydatid cyst. Puncture is dangerous. Removal of the entire pocket is the only treatment to avoid recurrence and insure rapid healing. When the walls of the cyst cannot be detached, the edges must be sutured to the skin after resecting as much as possible. Diffuse polycystic disease of the liver seems beyond the resources of surgery, but it may be possible to open some of the larger cysts that cause the most discomfort.

Removal of Submaxillary Glands.—Five large illustrations show the various steps of an operation which allows the complete removal of the submaxillary and lymphatic glands, thus clearing out the entire submaxillary space. This operation is required even when the tumor in the tongue or throat has been treated with radium or roentgen rays, as these have no action on the adenopathy.

Journal d'Urologie, Paris

January, 1923, **14**, No. 1

*Postoperative Pelvic Cellulitis. Legueu and Rochet.—p. 1.
*Anorectal Gonorrhea. Lévy-Weissmann.—p. 13.
*Cystic Lymphosarcoma of the Scrotum. Oudard.—p. 33.

Local Suppuration After Operations on the Bladder.—Legueu and Rochet comment on the defective mechanical conditions for drainage after suprapubic incision. There is liable to be infiltration of urine back of the pubis and insidious abscess formation. They have had three instances of this in more than a thousand suprapubic prostatectomies. Treatment consists in introducing a drainage tube through the perineum, as they describe in detail. This usually saves the situation even when the perivesical or pelvic cellulitis is far advanced. The suppuration may make itself manifest far from the bladder, but no treatment is effectual that does not provide ample gravity drainage for the original focus in the bladder or bed of the prostate.

Gonococcus Infection of Anus and Rectum.—Weissmann remarks that rectal gonorrhea often runs an insidious course and escapes detection, but it usually entails the same kind of lesions as in gonorrheal urethritis, and is equally liable to become chronic. Aside from microscopic discovery of the gonococcus, there are no pathognomonic signs, but rectoscopy aids in the diagnosis by exclusion. The patient should not be allowed to become constipated; it is better to keep the stools soft and frequent, with castor oil or petrolatum. He warns against cleansing enemas, as they are liable to spread infection upward. For the same reason, the two-way nozzle should not be introduced deep into the rectum. A weak solution of potassium permanganate, as hot as can be borne, should be used for the irrigation once or twice a day. Delbet supplements this by injecting 200 gm. of bismuth suspension, to be retained, as a dressing for the walls. A speculum with large openings allows examination, and cauterization with 10 per cent. nitrate of all ulcerations; the speculum *grillagé* is better for this purpose than the rectoscope. In absolutely rebellious cases it may be necessary to divert the feces by an artificial anus or to resect a segment of the rectum. In conclusion he mentions Carnot's recent case in which rebellious bleeding polypous vegetations subsided after daily irrigation of the rectum with boiled water followed by injection above the vegetations of a gelose mucilage with 20 per cent. magnesium chlorid.

Lymphosarcoma of the Scrotum.—Oudard's patient was a young man who had had for two years a tumor of the scrotum. It proved to be a lymphosarcoma, and rapidly recurred after resection. Under four exposures to roentgen rays the recurrence subsided completely within three months. The malignant tumor had developed in the tissues of ectodermal origin, apart from the vaginalis and cord.

Lyon Chirurgical

September-October, 1922, **19**, No. 5

*Ileus from Congenital Malformations. E. Dahl-Iversen.—p. 497. Conc'n No. 6, p. 685.
*Rupture of Bladder. L. Plisson.—p. 535.
*Nerve Grafting. A. Policard and R. Leriche.—p. 544.
*Neuromas in Pathology of Limbs and Viscera. R. Leriche.—p. 550.

Ileus as Consequence of Congenital Malformation of the Intestines.—Dahl-Iversen reviews the experiences in Denmark with ileus from congenital stenosis or atresia of the bowel, a total of thirty-six cases, including 12 never before published. Children are usually 4 or 7 months old before invagination is liable to occur. With congenital stenosis of the pylorus there is no bile in the vomit, and it is never fecaloid. The disturbances occur later, not until the second or fourth week of life, while congenital ileus becomes manifest the second or third day as a rule. He knows of only three cases on record in which the infants developed normally after an operation to correct the abnormal conditions in the bowel. His personal experience comprises one instance of recovery after operative treatment of congenital ileus from this cause in the new-born. In a certain proportion of the cases the congenital malformation does not cause disturbance until late in life. There may be vague symptoms of dyspepsia, with occasional acute exacerbations evidently due to a tendency to volvulus. This may correct itself spontaneously again and again, until finally it becomes irremediable without an operation. The mechanism is the same as in the new-born. Radioscopy may prove misleading unless the conditions are studied from various angles, allowing intervals between the examinations. In one case the eighth plate, of the ten made, was the only one that revealed the true condition. In conclusion the long clinical history is related of a man aged 58 who had had a habit of vomiting bile every morning since childhood, with occasional acute attacks of pains and jaundice which were interpreted as gallstone colic with chronic enteritis; but necropsy explained the symptoms by transient obstruction of the bowel from kinking of the movable duodenum, or recurring partial volvulus, a consequence of the common mesentery.

Traumatic Rupture of Both Bladder and Urethra.—Plisson relates that the contusion had dislocated the pubes and torn the neck of the bladder and the lining of the urethra. The rupture of the urethra was overlooked at the first operation; this should have been sutured first, and the bladder merely drained. If neither laceration can be sutured, then diversion of the urine through the perineum, supplemented by suprapubic drainage, is the proper procedure. He reconstructed the urethra over a long drainage tube, about the caliber of a No. 18 catheter, the upper end extending from the opening into the bladder. The tube was pulled back and forth every day, and the gap left by resection of the cicatricial fibrous block soon healed and clinically normal conditions were restored.

Fate of Transplanted Nerves.—Policard and Leriche describe the findings in a leg amputated more than two years after a grafting operation on the sciatic nerve with a nerve from a calf. The nerve elements had grown into the implant from below, but the upper end was blocked with fibrous tissue.

Cicatricial Neuromas.—Leriche suggests the possibility that cicatricial neuromas of the minute branches of nerves may have some share in the pathology of the limbs and viscera. Just as such neuromas may be responsible for serious disturbance in amputation stumps, so they may entail internal disturbances. He urges research in this line.

November-December, 1922, **19**, No. 6

*Cancer of the Breast. L. Tixier.—p. 673.
*Phlebitis of Longitudinal Sinus. A. Rivière and R. Bertoin.—p. 679.

Cancer of the Breast.—Tixier reports 38 per cent. apparently cured of 211 patients with cancer of the breast given operative treatment between 1902 and 1914; fifty-seven are still living after more than six years. Fully 45 per cent. succumbed to recurrence during the first two years after the operation. He makes the extirpation as early and as extensive as possible.

Thrombophlebitis of the Head.—The protracted fatal obliterating process in the woman aged 32 was remarkable for the involvement of nearly all the venous sinuses of the head and the internal jugular veins. The woman died nearly six months after the first symptoms. A mastoid operation had been done on each side in turn.

Médecine, Paris

January, 1923, **4**, No. 4

Ophthalmology in 1922. A. Cantonnet.—p. 243.
*Senile Cataract. Lagrange.—p. 247.
Progressive Decrease of Trachoma in Montpellier. H. Truc.—p. 253.
*Writing for the Blind Which Can be Read by the Seeing.—p. 254.
*Furuncle of the Face and Orbital Thrombophlebitis. Gallemaerts.—p. 255.
*Enucleation in Panophthalmia. Rollet and Bussy.—p. 259.
*Surgical Treatment of Entropion. A. Cange.—p. 261.
Ophthalmic Migraine. F. Terrien.—p. 265.
*Palpation in Ophthalmology. H. Frenkel.—p. 267.
*Ocular Accidents in Spinal Anesthesia. A. Monthus.—p. 273.
*Ocular Syndrome of Botulism. De Saint-Martin.—p. 274.
*Ocular Autoserotherapy. P. Jeandelize and P. Bretagne.—p. 278.
Otorhinolaryngology in 1922. L. Baldenweck.—p. 282.
*Cure of Pseudo-Adenoids. Trétrop.—p. 289.
*Labyrinth Deafness Due to Arteriosclerosis. E. Escat.—p. 290.
*Latent Mastoiditis. L. Reverchon.—p. 296.
*Solitary Polyps of Nasal Fossa. H. Caboche.—p. 301.
*Abscess of Nasal Septum. G. Canuyt.—p. 307.
*Modern Treatment of Hay-Fever. M. Jacod.—p. 308.
*Migraine Following Sinus Disease. G. Dutheillet de Lamothe.—p. 314.
*Cough of Rhinopharyngeal Origin. A. Bloch.—p. 318.

Method of Choice in Treatment of Senile Cataract.—Lagrange has had excellent results with waiting till the cataract is really mature—although not overripe. He makes an intracapsular extraction, tears off part of the capsule, performs an iridectomy, and uses a conjunctival flap, with prophylactic vaccines and antipneumococcus serum as adjuvants. He does not believe that his results would be better if he used the method advocated by Barraquer (aspiration of the lens). The greater acuity of vision claimed by the followers of this method is hardly appreciated by the patients, who are quite satisfied with 5/10 vision. The dangers and possible accidents of the method of vacuum extraction in the capsule must not be underestimated.

Writing for the Blind with Usual Characters.—Dr. Cantonnet and Canon Nouet propose a new method of printing for the blind. Points in relief are kept, but instead of Braille's figures, the points are arranged in the shape of ordinary letters. The system has been accepted by the French authorities interested in ameliorating the condition of the blind, as was chronicled in the News department recently.

Furuncle of the Face and Orbital Thrombophlebitis.—Gallemaerts describes the dangers of thrombophlebitis progressing from the branches of the facial vein through the superior ophthalmic to the sinus cavernosus. Therefore every furuncle of the face should be treated early and radically by the galvanocautery.

Enucleation in Panophthalmia.—Rollet and Bussy consider enucleation by far the best method in panophthalmia. It is surprisingly benign. All the accidents are just as possible with excochleation.

Surgical Treatment of Entropion.—Cange considers Panas' operation as the only one which should be used by practitioners.

Palpation in Ophthalmology.—Frenkel finds that the practioner does not use palpation sufficiently and systematically in diseases of the eye. If the patient gives the impression of being sleepy (false ptosis), think of trachoma, which is found by turning back the upper lid. The subtarsal groove is a favored seat for small foreign bodies. Larger bodies can be found after rolling the lid around an object (after local anesthesia). Palpation of the lacrimal sac should become a reflex action of the physician. Every unilateral conjunctivitis, which lasts for more than fourteen days, is a dacryocystitis, as well as every conjunctivitis of the new-born, which lasts a month without attacking the cornea. Dacryocystitis is the fourth causal agent of blindness, especially in working people in whom it leads to ulcers with hypopyon. One finds in every ophthalmologic clinic glaucomatous patients who lost their sight because the physician had omitted to test the tension of the eye.

Ocular Accidents in Spinal Anesthesia.—Monthus deals with paresis of the abducens (rarely trochlearis) which occurs sometimes after spinal anesthesia made correctly. The paralysis usually disappears quickly, but it may sometimes persist.

Ocular Syndrome of Botulism.—De Saint-Martin mentions the usual ocular signs of botulism (more or less complete external and internal ophthalmoplegia), which should at once lead to the diagnosis, especially when connected with other ocular signs. He found in eight cases retinal congestion, amblyopia, and a very narrow field of vision.

Ocular Autoserotherapy.—Bretagne recommends Rohmer's method which consists in several injections of 1 c.c. of the exudate obtained from a blister. The injections may be repeated after forty-eight hours, and they are given alternately under the upper and lower conjunctiva of the bulbus. The indications for it are ulcers of the cornea, especially with hypopyon, postoperative infections, contraction of iris in rheumatic and gonorrheal iritis, and gonorrheal conjunctivitis. Other methods of treatment should also be used.

Cure of Pseudo-Adenoids.—Trétrop deals with "pseudo-adenoids." These unfortunate patients are curetted and resected repeatedly for a supposed hypertrophy of adenoids which does not exist. The insufficient permeability is due in these cases to a malformation of the maxillary bones. The incisor teeth are driven forward or backward. The treatment consists in an apparatus which spreads the two sides apart. In children under 10 years, good results are obtained in about six months. The most favorable age is 5 years.

Labyrinth Deafness Due to Arteriosclerosis.—Escat has pointed out that the labyrinth has its "intermittent claudication." Most cases of Menière's syndrome and of chronic labyrinth deafness appearing after the age of 40 are due to local arteriosclerotic disturbances. The only treatment is that of arteriosclerosis.

Latent Mastoiditis.—Reyerchon finds it parodoxic to deal with symptoms of a latent affection. Yet we should think of latent mastoiditis if healing does not make rapid progress after paracentesis of the tympanic membrane, and especially when the pus comes at intervals. Sebileau pointed out also a particular psychic condition of these patients: they do not feel well, have a vague feeling of heaviness in the head, slight insomnia, no appetite, and incapacity for work. The disease is dangerous if not treated, and therefore a suspicion warrants surgical exploration.

Solitary Polyps of Nasal Fossa and Latent Sinusitis.—Caboche states that a solitary polyp of the middle fossa is a probable sign of an affection of the sinus, even if the meatus appears clean. It recurs if the sinusitis remains untreated. Yet the patients are usually satisfied with the immediate effect of the removal of the polyp.

Abscess of Nasal Septum.—Canuyt emphasizes that the diagnosis and incision should be made early, because the affection destroys the cartilage and causes severe deformity.

Modern Treatment of Hay-Fever.—Jacod reviews the pollen theory and the results of specific treatment.

Migraine Following Nonsuppurative Affections of the Sinus.—Dutheillet de Lamothe traces a number of supposed migraines to affections of the sinuses. Sphenoidal affections cause an occipital headache, while the posterior ethmoidal produce a diffuse pain.

Cough of Rhinopharyngeal Origin.—Bloch emphasizes the rhinopharyngeal causes of coughing. This "pseudotuberculosis" is due to adenoids, rhinitis or nasal malformations.

Nourrisson, Paris

January, 1923, **11**, No. 1

*Breast Milk as Factor in Eczema in Infants. A. B. Marfan and Turquety.—p. 1.
*Lab-Ferment in the Fetus. G. de Toni and M. Montavani.—p. 10.
*Diphtheria in Infants. M. Chevalley.—p. 33.
American Methods of Milk Modification. R. Caruette.—p. 46.

Eczema in Infants.—Marfan and Turquety observed a wet-nurse whose milk caused eczema in three nurslings. The milk contained from 4.1 to 7.8 per cent. of fat. When the fat content returned to the normal proportion, the child she was suckling at the time remained healthy.

Lab-Ferment in the Fetus.—De Toni and Montavani found lab-ferment in the stomach of human fetuses as early as between the third and fourth month of development. In certain fetuses the lab-ferment was lacking or its action was minimal even in farther advanced development. In most of the cases its action seemed to be comparatively specific against human milk.

Diphtheria in Newly Born and Other Infants.—Chevalley calls attention to the possibility of diphtheria when an infant has rhinitis or ulcerating cutaneous lesions at the navel or behind the ear. Such affections are comparatively harmless. The rhinitis of inherited syphilis seems to be a favorite point of attack for the diphtheria bacillus. Inoculation of animals seems to be the only means to exclude pseudo-diphtheria bacilli.

Presse Médicale, Paris

Jan. 17, 1923, **31**, No. 5

Pasteur and General Biology. C. Delezenne.—p. 45.
*Diathermy in Affections of Gallbladder. J. J. Rouzaud and J. Aimard.—p. 47.
*Insufficiency of the Hip Joints. J. Gourdon.—p. 48.
Pancreatic Hormone and Diabetes. P. Pagniez.—p. 50.

Diathermy in Affections of the Gallbladder.—Rouzaud and Aimard had further good results in the majority of 200 more cases treated by diathermy. It is the method of choice in subacute cholecystitis without or with formation of gallstones.

Insufficient Hip Joints.—Gourdon points out that congenital deformities of hip joints are comparatively frequent. In children and even old persons, they are the cause of disturbances, which resemble coxitis. Early fatigue in walking and attacks of pain, especially if the weight of the body increases (pregnancy) or if the profession requires much walking, are the usual signs. Rest and daily exercises with forced abduction of the thighs lead to formation of a better acetabulum, and give excellent results in children in a few months.

Schweizerische medizinische Wochenschrift, Basel

Jan. 25, 1923, **53**, No. 4

*Migraine. A. Schlesinger.—p. 77.
Climate of Switzerland. H. Hunziker.—p. 81.
*Urohemolytic Coefficient in Malignant Tumors. C. Bortolotti.—p. 83.
Treatment of Deformities of Lips. P. Cattani.—p. 85.
Macroscopic Anatomy of Heart. P. Schweizer and M. Ujiie.—p. 89. Cont'd.
Morbid Conditions in the Feet. F. Brandenburg.—p. 91.

Migraine.—Schlesinger uses pills of iron and calcium glycerophosphate and a laxative tea in the treatment. He calls the attack a "depurative crisis."

Urine-Hemolysis Coefficient in Malignant Tumors.—Bortolotti found that Amati's urohemolytic coefficient is of no value for the diagnosis of malignant tumors.

Pediatria, Naples

Jan. 15, 1923, **31**, No. 2

*Antimony Intolerance in Leishmaniasis. I. Nasso and M. Mallardi.—p. 57.
*Histology of the Liver in Infancy. A. F. Canelli.—p. 68.
Universal Hydrops of Fetus. R. Pollitzer.—p. 80.
Turricephalia. Giuseppe Foresti.—p. 90.

Antimony Resistance of Parasites and Intolerance of Patients in Treatment of Leishmaniasis.—Nasso and Mallardi found sometimes a primary or secondary resistance of the parasites against the antimony tartrate used in treatment. The secondary resistance may be due to too small doses or to irregular intervals in treatment. Some patients cannot stand larger doses. In all of these cases the treatment has to be adapted to the conditions. For resistant parasites, the doses have to be large (5 to 7 cg.) and the pauses longer in order to insure the elimination of the drug. With secondary resistance combined with intolerance of the patient, the treatment must be arrested for several weeks and started again with smaller doses. In primary intolerance, small doses have to be used every two or three days. With these methods no child needs to die from leishmaniasis.

Histology of the Liver in Infancy.—Canelli has found in the liver and other organs a fibrillar system around the vessels which has an elective affinity for ammoniacal silver salts. It develops in the second half of the first year of extra-uterine life. This system shows a different reaction in disease.

Chirurgia degli Organi di Movimento, Bologna

January, 1923, **7**, No. 1

*Anomalies in Shape of Fifth Lumbar Vertebra. G. Benassi.—p. 1.
*Diagnosis of Pott's Disease in the Elderly. M. Salaghi.—p. 57.
*Juvenile Arthritis Deformans. De Raffele.—p. 65.
*Voluntary Control with Amputation Stump. G. D'Agata.—p. 104.

Malformation of Fifth Lumbar Vertebra.—In concluding a long study of the true and false sacralization of this vertebra, Benassi remarks that the more numerous our methods of investigation the greater the probable error from inaccurate or misconstrued findings.

Tuberculosis of the Spine in the Elderly.—Salaghi's experience testifies that Pott's disease is very liable to escape discovery when it develops at an advanced age. The persistent pains in the lumbar region or above are usually ascribed to rheumatism or gout. He describes a case in a woman, aged 70, who was relieved of pain by a plaster cast. As a rule there is no deformity of the spine in these elderly cases.

Juvenile Arthritis Deformans.—De Raffele gives nine photomicrographs from two typical cases in girls, aged 11 and 14. Tuberculin tests were negative. In one case improvement was realized under general and physical measures, and for three years the clinical cure seemed complete. Then the symptoms returned and the lesion was resected, with an apparently complete and permanent cure.

Cineplastic Amputation.—The forearm of the young woman had been amputated on account of a tuberculous process. The stump was slit up to utilize the muscular energy as the arm is twisted back and forth. The results have exceeded anticipations. Putti calls this the "forceps method" as the forked end of the stump grasps articles like the jaws of forceps. The muscular force is sufficient to move the fingers of an artificial hand in many such cases. The article is illustrated.

Archivos Latino-Amer. de Pediatría, Buenos Aires

January, 1923, **17**, No. 1

*Anemia in Infants. M. Acuña and A. Casaubón.—p. 1.
*Orbital Abscess. J. de Salterain and J. C. Munyo.—p. 22.
Tuberculosis of the Conjunctiva. J. de Salterain.—p. 26.
Pneumonia in Two Infants. W. Piaggio Garzón.—p. 32.
*Hydatid Cysts in the Lungs. E. Portu Pereyra.—p. 38.
*Jaundice from Fright. J. Rosenburg.—p. 48.
Pyelitis in Infant. Recovery after Autogenous Vaccine Treatment. V. Zerbino.—p. 53.
Chronic Eczema. Recovery After Vaccine Treatment. Piriz Aréchaga.—p. 59.

Anemia in Infants.—Acuña and Casaubón describe the clinical aspect of anemias of the chlorotic type, of the grave type with splenomegaly, and the pernicious hypoplastic or aplastic type, reporting examples of each. Inherited syphilis and an over-long exclusively or predominantly milk diet—even of breast milk—are the most frequent causes of anemia in infants. The region should always be considered and an inquiry made in regard to endemic malaria, hookworm and leishmaniasis. Whatever the measures addressed to the causal agent, the food should be varied and rich in iron, with organotherapy, arsenic, iron, hygiene, and transfusion of blood in the grave cases. Transitional forms are frequent. Roentgen-ray exposures of the enlarged spleen in a personal case failed to modify the size of the spleen. The leukocytes dropped to 4,500, but the normoblasts declined likewise, hence they consider roentgenotherapy a two-edged weapon to be wielded cautiously. They give a list of foods, rich in iron: peas with 6.6 mg.; apples, 13.2 mg.; beef, 16.6 mg.; egg yolk, 17.1 mg., and spinach, 35.9 mg. in 100 gm. of dried substance.

Maxillary Sinusitis and Abscess in the Orbit.—The girl aged 8 had complained for a week of swelling of the cheek and eyelids, and two carious teeth were extracted on the assumption of sinusitis in the antrum of Highmore. A phlegmon in the orbit was recognized five days later, was evacuated at once by an incision in the mucosa of the gum and lip at the canine fossa, and the periosteum was scraped up to the phlegmon. The Caldwell Luc technic was then applied and a drainage tube left in the site of the phlegmon. Recovery was uneventful and vision was not impaired. The prompt and radical intervention had warded off danger. This should be the rule at the slightest suspicion of extension to the orbit of a process in the maxillary sinus. The pneumococcus was found in the pus in this case, a vaccine was used, and the mouth was disinfected with 1 per cent. phenol solution.

Hydatid Cyst of the Lung.—In only one of the seven cases described in children between 11 and 14 was it necessary to call in the surgeon. In six cases the cyst evacuated its contents through a bronchus, and the symptoms subsided. The interval between the vomica and complete recovery ranged from twenty days to two months. One of the children had been sent to a sanatorium for the tuberculous; the hydatid cyst was not recognized until the vomica, and the child contracted tuberculosis from the environment. In the operative case there was a second hydatid cyst in the liver.

Jaundice from Emotional Stress.—The girl aged 9 had barely escaped being run over, but was apparently uninjured. The next day there was intense jaundice, and slight fever, with clay-colored stools, while the urine was dark. The liver and spleen were enlarged, but conditions gradually

returned to clinically normal in eleven days, except that the jaundice was still perceptible to a slight extent. Rosenburg states that he knows of only twelve cases on record of jaundice from a fright, and believes that this is the first instance to be published in Latin America.

Revista Médica del Uruguay, Montevideo

January, 1923, **26**, No. 1

*Bullet in Pericardium. P. Barcia and J. Montes Pareja.—p. 1.
Postdiphtheric Paralysis of Deltoids. S. García Pinto.—p. 4.
Multiple Tardy Bone Lesions from Inherited Syphilis. Alice Armand Ugón.—p. 9.
*Thrombophlebitis of Lateral Sinus. J. C. Munyo.—p. 14.
*Syphilitic Necrosis of Skull. Aquiles di Lorenzo.—p. 19.
*Primary Syphilis Refractory to Arsenicals. J. May.—p. 26.

Bullet in Pericardium.—The man now aged 42 has had no appreciable disturbances from the pistol bullet in his heart for twenty-two years. It seems to be lodged in the anterior wall of the left auricle.

Thrombophlebitis of Lateral Sinus.—Munyo's success in the three cases reported should encourage operative treatment of all cases of the kind diagnosed before irreparable lesions have occurred. One of the cases is described in detail. The girl aged 14 had had a low-grade recurring otitis from infancy. The jugular vein was ligated low down before the tough thrombus was extracted from the lateral sinus. The wall of the sinus was rinsed with surgical solution of chlorinated sodium, and the incision was tamponed.

Syphilitic Necrosis of the Skull.—The woman died at the age of 40 from the effects of cranial osteitis of ten years standing. The syphilitic nature of the lesions had not been suspected until too late.

Syphilis Refractory to Arsenicals.—May describes secondary lesions in a man notwithstanding vigorous neoarsphenamin treatment soon after infection; the Wassermann test was negative. He cites a number of other cases in which treatment with arsenicals failed to prevent return of secondary lesions.

Beiträge zur klinischen Chirurgie, Tübingen

1923, **128**, No. 1

*Pathology of Secretion of Bile. Gundermann.—p. 1.
*Salt Content of Bile. L. Kröck.—p. 18.
*Endocrine Factor in Electric Excitability. O. Specht.—p. 25.
*Regional Anesthesia for Abdominal Operations. F. v. d. Hütten.—p. 54.
*Comparison of Salt and Sugar Solutions. E. Düttmann.—p. 68.
Perineal Ectopia of Testes. Gundermann.—p. 75.
*The Kidneys with Hypertrophied Prostate. G. Düttmann.—p. 79.
*Mesenteric Arterioduodenal Occlusion. A. Braun.—p. 103.
Primary Phlegmons of the Intestine. A. Braun.—p. 142.
Operative Treatment of Gumma in the Liver. E. Monse.—p. 148.
Amputation Stumps in the Young. W. Vermeil.—p. 159.
*Traumatic Injury of Semilunar Bone. E. Saupe.—p. 187.
*Protection of the Parathyroids. F. de Quervain.—p. 197.
*Bile Peritonitis without Perforation. H. Burckhardt.—p. 209.

Pathology of Secretion of Bile.—For two years Gundermann has made a practice of collecting the bile after operations on the common duct. The patients were kept in bed, and the changes in the bile secretion were studied for eight days. In nine of the thirteen cases the bile thus collected averaged about 250 c.c. a day; in two others the average was 500 c.c., and one patient excreted more bile than urine. The amount was more than the intake of fluid. The salt content of the bile was remarkably constant. Bile secretion does not seem to be influenced by intake of fluid. In his total thirty-one cases requiring an operation on the common bile duct, there was only one instance of abnormally profuse secretion of bile, a true polycholia.

Salt Content of Bile.—Kröck in twenty cases found that the salt content was remarkably constant, regardless of the intake of salt in the food.

Influence of Endocrine Glands on Spastic Conditions and Electric Excitability.—Specht gives fourteen pages of tabulated data of extensive experiments on guinea-pigs to determine whether removal of one or several endocrine glands would modify spastic conditions. The experiments were numerous and diverse, but the findings were constantly negative. They do not sustain in any way Brüning's recent suggestion that removal of the suprarenals might favorably affect epilepsy.

Regional Anesthesia for Abdominal Operations. Hütten reports seventy-three operations under paravertebral or parasacral anesthesia. The nerves and rami communicantes are blocked as they emerge from the intervertebral foramens. For the kidneys, this seems the preferable method of anesthesia, but for other abdominal operations it has several drawbacks. He saw nothing to confirm the alleged dangers of the technic, and Siegel came to the same conclusion from his experience in 2,000 cases. Hütten says that Braun's parasacral anesthesia is harmless, simple and certain, and is superior to all other methods of anesthesia for organs innervated by nerves that can be blocked by injection through the sacral foramens. This includes the prostate, bladder and rectum. Hütten gives a table to show the special nerves blocked for the various operations. In the seven kidney cases the forty-five minute operation was done with only 1.5 gm. of procain, and the anesthesia was perfect. The nerves blocked were the sixth to the twelfth dorsal and first and second lumbar. The anesthesia was perfect also in the eight cases of rectal cancer. The operation lasted up to 150 minutes, but only 2.5 gm. of procain was used. The nerves blocked were the tenth to twelfth dorsal, the first to the third lumbar and the first to the fifth sacral. The after-effects of the anesthesia are extraordinarily mild.

Superiority of Sugar Over Salt Solutions for Infusion.—Düttmann reports tests with isotonic salt and sugar solutions given by subcutaneous infusion in twenty cases and compares the results. The water was not eliminated so rapidly with sugar solution as with salt, but it stimulated metabolism more effectually. This was manifest in the increased elimination of urates and phosphates in the urine, and excellent elimination of sodium chlorid. Sugar is also useful for nourishment, and tends to ward off acidosis.

Tests of Kidney Function with Hypertrophied Prostate.—In four of eleven patients with hypertrophied prostate, the tests revealed pronounced insufficiency of the kidneys, and one succumbed to uremia after the prostatectomy. Düttmann ascribes the kidney changes mainly to mechanical injury from retention of urine in the bladder. The resulting disturbance may be in the nature of stasis polyuria, the kidneys being unable to secrete concentrated urine. The blood becomes thicker, and symptoms of dehydratation appear. The derangement is functional, as all the symptoms soon subside after suprapubic incision of the bladder. In this class of cases, with polyuria and not much nonprotein nitrogen, the operation should always be done at two sittings. When the nonprotein nitrogen in the blood is much above normal, whether or not there is stasis polyuria, the kidneys are organically diseased, and the blood pressure is generally high. Any attempt to remove the prostate is dangerous under these conditions. A simple fistula into the bladder, if the outflow of urine is much impeded, is preferable to other intervention.

Acute Dilatation of the Stomach.—Braun explains that acute dilatation of the stomach can occur as a primary affection, and arteriomesenteric occlusion of the duodenum may likewise occur as a primary, independent clinical picture. Either may occur and be followed by the other. Prognosis is favorable if the condition is recognized promptly and the cause treated (position, emptying the stomach, removal of hampering factors). A rapidly progressive course renders the prognosis extremely grave if the true condition is not recognized. If improvement does not follow at once, operative treatment should not be deferred too long. The great danger is that no one thinks of acute dilatation of the stomach, and hunts for other causes. Perforation peritonitis is the usual diagnostic blunder. The stomach tube clears up the diagnosis and is important in treatment. If there is a history of acute dilatation of the stomach in the past, extreme caution is indispensable in giving an anesthetic. The rapid distension of the abdomen, dulness, splashing sound, and typical vomiting render the diagnosis easy if the possibility is borne in mind. There is no vomiting at first as the stomach is paralyzed, but it finally becomes so distended that pressure forces the contents upward, and small amounts are repeatedly vomited.

Traumatic Nutritional Disturbance in the Semilunar Bone.—Saupe reports a case in a young woman and compares it

with seventy-six on record. The prognosis is favorable when treatment is applied early, but not otherwise.

Protection of the Parathyroids.—De Quervain emphasizes the necessity for special care in regions where tetany is common; also in operations for recurrence of goiter. He has never had an instance of pronounced tetany after any of his 2,203 operations for goiter in the last twelve years. In only three cases were there slight functional disturbances suggesting possible parathyroid injury. He gives a few rules which he always observes and to which he ascribes his success.

Bile Peritonitis.—Burckhardt declares that no authentic cases of "bile peritonitis without perforation" are on record. The perforation may have been overlooked or may have healed. An effusion from the biliary apparatus may be somewhat tinted, but this is not bile.

Deutsche Zeitschrift für Chirurgie, Leipzig

December, 1922, **176**, No. 5-6

*Aneurysm of Renal Artery. K. Vogeler.—p. 297.
*Goiter Statistics. M. Stoss.—p. 325.
*So-Called Aseptic Renal Pyurias. W. Peters.—p. 342.
Lymph Glands in the Cheek at the Commissure. Seifert.—p. 354.
*Pathology of the Thymus. H. E. Bircher.—p. 362.
*Appendix in Hernia on Left Side. K. H. Erb.—p. 379.
*Operative Treatment of Excessively Large Hernia. Denk.—p. 399.
Sarcoma of Spermatic Cord. M. Mettenleiter.—p. 402.
Unusual Chronic Invaginations. O. Hagedorn.—p. 407.

Aneurysm of the Renal Artery.—Vogeler gives details of a case personally observed and of twenty-eight others he has compiled from the literature of 200 years. The correct diagnosis was made during life in only five of the cases. The tumor developing slowly after a slight trauma and the blood in the urine are the main elements for diagnosis. In the seven operative cases, the kidney usually had to be removed with the aneurysm, and the patients were all saved but one. In this case, in isolating the tumor the artery ruptured, and fatal hemorrhage ensued. Orth succeeded in suturing the tear in the renal artery and thus saved the kidney.

Statistics of Goiter.—Stoss analyzes 606 operative cases of goiter at Munich. In men the goiter seems to be more of an ordinary tumor type, and the disturbances are mainly mechanical, while in women the goiter seems to be more closely connected with the endocrine system, and thyrotoxic disturbances predominate.

Aseptic Renal Pyuria.—Peters relates that in fifteen cases no bacteria could be found to explain the renal pyuria, and conservative treatment was applied in ten. In the others the kidney was removed and in every instance recent or old inflammatory lesions were found, amply explaining the pyuria and justifying the nephrectomy even in the absence of tuberculosis.

The Thymus in Surgical Infections.—Bircher's experience in Switzerland has confirmed the importance of operative reduction of the thymus to break up the vicious circle of the thymic-lymphatic status. The hospital records showed this thymic-lymphatic status in 75 to 80 per cent. of the thirty-five deaths in 276 cases of tetanus, diphtheria, appendicitis, and acute infectious cholecystitis. He contends that, with the mechanical factors, endocrine factors are involved in cases of "thymus death." He has operated on the thymus in ten cases. The portions resected measured up to 10 cm. and weighed up to 45 gm. The benefit on the general condition thereafter was beyond question. The medulla always showed marked hyperplasia. He does not approve of roentgen treatment of persistent thymus or of the thyroid, regarding it as treatment in the dark, without possibility of correct dosage, while the treatment affects the whole of the thymus and thymiprival idiocy is liable to follow. He has seen a case in which the growth was completely and permanently arrested three years after roentgen exposures of the thymus. In another case the exposures aggravated the symptoms so that the thymus had to be resected after all. At the operation it is easy to resect the abnormal and leave the normal portions.

Appendix in Hernia on Left Side.—Erb states that situs inversus was not discovered in any of the 50 cases he has compiled in which the vermiform appendix was included in the left hernia. He adds a case personally observed to the list. The hernia was of the femoral type in only 5 of the cases. In 5 the hernia was congenital; in 14 it was of long standing. In one case the hernia had existed from birth to the age of 41.

Large Irreducible Hernia.—Denk commends resection of the irreducible portion of the intestine, and reports a case that illustrates the advantages. The portion of the bowel resected measured 265 cm. Numerous lipomas in the omentum and mesentery had impeded reduction. The patient was a man aged 57, and recovery was smooth.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 10, 1923, **1**, No. 6

*Therapeutic Abortions. J. A. van Dongen.—p. 538.
*Pseudohemophilia. F. van der Zande.—p. 544.
*Epilepsy with Dementia Praecox. A. Endtz.—p. 554.
Accessory Coronary Artery. H. Feriz.—p. 567.
*Rupture of Varicose Vein in Vagina. H. Veen.—p. 571.
Prolapse of Umbilical Cord. J. Krull.—p. 572.

Therapeutic Abortion.—Van Dongen relates that in six of his 2,000 curettements the procedure was undertaken as an emergency measure to save the woman's life, although the pregnant uterus itself was intact. There was always a consultation between the family physician, an experienced obstetrician and the specialist in the affection responsible for the grave condition. He never emptied the uterus on account of uncontrollable vomiting alone, or chronic kidney disease, but pregnancy pyelitis compelled this in one case not seen until too late for ordinary measures. Irrigation of the kidney pelvis is difficult in advanced pregnancy, and is less certain in its effects than abortion. In one case of rapidly progressing pulmonary tuberculosis with anemia, in a primipara in the third month of pregnancy, arrest of the pregnancy brought a turn for the better, and the disease has been stationary since. In another case a specialist advised interruption of the pregnancy on account of the severity of an affection of the maxillary sinus which had returned at each of the woman's five pregnancies, with other sinus and brain complications in the last. The interval since the last menstruation was only six weeks, and the sinusitis healed after the abortion. Progressive pulmonary tuberculosis, or threatening heart disease were the indications in the other cases, the grave condition continuing after the abortion, but the patients survived for nearly a year or to date.

Inherited Hemorrhagic Blood Platelet Insufficiency.—Glanzmann noted a family tendency to repeated epistaxis and other hemorrhages in his 8 cases of hemorrhagic purpura. There was a history of 4 instances of Werlhof's disease in one family, 2 in the second and 2 in the third generation. Six of the 12 members of the second generation presented a hemorrhagic diathesis, and 2 females and one male in the third generation. This thrombasthenia explains the hemorrhagic diathesis in women which has raised the question whether hemophilia can occur in women. The two conditions differ decidedly. In hemophilia there is bradythrombia, in contrast to the tachythrombia of Glanzmann's thrombasthenia. Van der Zande describes a family which seems to belong to this type although no instances of actual hemorrhagic purpura are known in the five generations, with 8 bleeders, men and women. The number of blood platelets is normal or above normal, but they are abnormal in shape, and coagulation does not occur normally. Zande suggests the term pseudohemophilia for this type of bleeders, as he does not think it has been proved that the blood platelets alone are to be incriminated, and this term suggests the familial and hereditary tendency.

Epilepsy Associated with Schizophrenia.—In one of the two cases reported the epilepsy was accompanied by catatonia and schizophrenia. In the second case paranoid dementia praecox was prominent. Both women had been mentally backward. He assumes a congenital tendency to schizophrenia, with an acquired genuine epilepsy.

Hemorrhage from Varices in the Vagina.—The danger from this cause is mainly that no one thinks of the possibility of a ruptured varicose vein as responsible for sudden profuse genital hemorrhage during pregnancy.